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# THE INDUSTRIALIST.

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## ***Concerning Nature-Study and Primary Agriculture.***

The definition of education as a "Preparation for complete living" will probably go unchallenged as a concise expression of the truth. It conveys with it, however, no implication that in order to fulfil the conditions of complete living a rural citizen of Kansas and a shipping merchant of Boston must travel the same road in life. Neither does it imply that the same course of training will fit each for his part on the program. Even in the years of primer and readers, long before the period of high-school electives, the young Jayhawker's education should differ in certain details from that of the budding citizen of the Hub.

Lack of adaptation to the conditions of the life they are living is the source of most of the discontent in people's lives. That this lack of adaptation is largely due to the early training they receive is capable of proof. Physically speaking, the lower animals are more contented and happy in their way than man. This is because nature has had her own way in fitting each species into its niche and training its individuals for the lives they are to live. When we attempt to mould each young life in the patterns of the same curriculum we overlook the fact that human life has become very complex. Why not go back to nature's method, then, and try to train the boys and girls of each community or commonwealth for the lives they are to live?

While mining, manufacturing and trading play some part in the industrial life of Kansas, the agricultural interests will always be paramount. The majority of our citizens will always live on farms or in rural villages. Of those who live in the cities we are safe in saying, again, that a majority will be directly interested in some farming operations, if only for recreation or love of growing things. To train our boys and girls in the rural schools, then, for the conditions of rural life ought to be the aim of our system of education. That we have failed in some degree to so train the young people who are now coming into life's estate is evidenced by the fact that far too many of them are dissatisfied with rural life and are drifting into the larger towns and cities.



Before suggesting a remedy for an unsatisfactory condition of things it might be well to investigate the causes that lead up to this condition. Here are a few that present themselves: The farmer runs down his own business, frequently speaking of it to his children in a disparaging way and expressing the hope that they will lead an easier life than he has. We ought to throw that citizen out of the camp for teaching treason to his cause. He has probably not been trained in Kansas schools, for most of the older generation migrated here from other states. We will admit that pioneer life was hard, but if the present-day farmer finds his life harder than that of the average professional or business man it is because he doesn't give his brains a chance to save his muscles.

That brings us to another cause of discontent with rural life. The budding youth imagines that the farm offers no opportunity for the expansion of his genius, no chance for him to use his brains. A course of training in an agricultural college will soon knock that conceit out of him. Earlier training in the right lines would have forestalled its inception and growth. The successful farmer, the farmer of influence and power nowadays is the man who knows. Any farmer in the more thickly settled communities of the East will tell you that farming operations require as much or more technical knowledge than the affairs of any other occupation. Some day lavish nature will cease to drop the ripened plum into the careless prairie farmer's mouth, and he will go hungry until he learns to give the plum tree intelligent care. In fact, the more such care he gives the tree now the richer and sweeter his plums and the more satisfaction in living.

Another source of dissatisfaction with farm life is, or rather was, the isolation and lack of social advantages. As teachers we have little to do with the solution of the isolation problem. Rural free delivery, rural telephone lines and the agitation for good roads are solving that problem in a very satisfactory way. But what of the social problem? In order to forestall the possible interruption of my remarks at this point by mental telepathy, I will myself quote the trite saying that man is a social animal and must have society. Well, the country boy and girl has it in its real essence, clear and sparkling from the fountain of naturalness; social life untrammelled by most of the conventionalities of the so-called cultured society of the city, where everything depends on the style of engraving on your calling card, your ability to outshine the other hostess in the matter of a pink tea, or to convince your neighbor that you never had to work for a living before. Now, honestly, do you enjoy the artificial more than you do the

real? If you do, you ought to live in a garden of milliner's flowers, exhaling the perfume of the drug-store, its trees bending with the weight of luscious wax fruits. You might also have a fountain with curving streams of spun glass and a few plaster-of-paris animals scattered about in life-like attitudes. This is not meant to be an arraignment of all society in the city, for you will find much there also that is natural; but do not look for it in the smart set.

Leaving out the human factor as party of the second part in our social relations, I question whether there is not at some times and to many people more comradeship to be found in the wild flower of the roadside than in the club, or even in the delectable ice-cream social; provided, however, you are acquainted with the wild flower and its life. There is the rub—but we will rub that in later.

Again, some country boys say that, considering the hard labor involved, farm work is not remunerative. That may be true of some of the less fertile eastern or southern districts, but it is certainly not true of Kansas. Compiled statistics of recent years will bear me out in this.

Finally, many boys and girls desert the farms because their home surroundings are not as attractive as those of city people. No matter what the conditions under which one may have been reared, a pretty lawn, a well-planned and commodious dwelling, flowers, trees and shrubbery appeal to the eye and to the heart. Will anyone admit for a minute that it is easier to secure these ideal surroundings in the cramped quarters of a city than on the broad acres of a farm? In most cases the matter of expense does not enter into the question. Many a farmer whose bank account runs into three and four figures prefers to house his farm animals better than he does his family, and as for lawns, trees, and flower beds, such things would interfere with his custom of hauling the farm machinery into the front yard, where he can more conveniently repair it. Everything depends on the point of view. If that farmer cannot be brought to see the error of his ways, we can at least teach his children more of the wisdom of life.

Just here is where Nature-Study adapts itself to the needs of the teacher in search of ways and means. Nature-Study is concerned with the child's outlook on the world, especially when that outlook is bounded by the horizon of the so-called commonplace. Nothing in the world of out-door objects and phenomena is common or mean if, in the child's mind, it can be invested with some of the attributes that really belong to it. Guided by the maturer wisdom of its teacher, the child early begins to multiply its points



of contact with nature and to increase thereby the joy of living. For to live a complete life is to have much knowledge of and sympathy with the life that is about us.

There are many misconceptions, among teachers, of the true character of the Nature-Study movement in the common schools. The most prevalent one is that Nature-Study is a smattering of elementary science. Far from it. While Nature-Study must, of course, deal with some of the facts of elementary science, these facts are the means to an end, not the end itself. The end is nature knowledge and nature sympathy in order that the nature student may live a happier life. When one starts out in quest of facts for the facts' sake, he is an investigator seeking to add to the sum of human knowledge. We are not dealing with him in this article.

Some one has said that Nature-Study is seeing what one looks at and interpreting correctly what one sees. No wonder the average farm boy finds little in commonplace surroundings to interest him. He has not been trained to observe. He hasn't a speaking acquaintance with the animate objects about him, much less a keen sympathy with their lives. He is in the world of nature, but not a part of it. He sees only the hard clod that rolls back from the furrow and the troublesome weed that falls at the stroke of his hoe. He has no knowledge of the conditions that produced the clod, or of the struggles, the successes and failures, and, we might say, the aspirations of the plant he chooses to call a weed.

Let me repeat that the farmer boy's discontent with his surroundings arises largely from ignorance of what is going on about him, and that this ignorance, in turn, is the result of lack of observation and proper training in earlier years. It is the province of Nature-Study, then, to train the boy and girl to observe. How much more profitable to know the wonders of the life that is about us than the marvels of the far-off coral reefs. If we are fortunate enough to awake some morning in the gardens of Paradise we may find nothing more marvelous there than poppies and pumpkin vines.

To know nature more intimately is to love her paths and by-ways. This love of nature, moreover, leads to practical results in the improvement of agricultural conditions. The boys and girls have learned that it is worth while to care for flowers and gardens, lawns, trees and shrubbery for the sake of the delight that attends such employment. They have gained a new point of view. It is no longer merely a question of how to make the farm more productive, though that is still important, but also how to make it

more attractive; how to get more out of life as they journey through it.

In the common school it is not the pupil alone who is benefited by the culture work in Nature-Study. The teacher likewise comes in for her share of the beneficial results. Nature-Study will develop a true comradeship between teacher and pupil when other things would fail. And what is more satisfying to the real teacher than such comradeship? Thinking back over the years of our own early school life we find that memory does not linger so long over the prosy days of text-book drudgery as over the hour when we played school in the woods, with a sweet-faced teacher presiding at a moss-covered stump. Again, when the devious paths of Nature-Study begin to intersect the lines of practical agriculture, as they surely will, we have strengthened by one more cord the bond of coöperation between teacher and patron. The average farmer will quickly sit up and take notice when his child, coming home from school, begins to prate of how the squash plant gets out of the seed, or how that patch of cockle-burs happened to spring up in the barn-yard. These are things within the realm of his every-day experience, and he is interested in the teacher who is training his children to see significance, cause and effect where only bare facts presented themselves to him. Now, teacher, isn't it worth while?

Having diagnosed the disease and suggested a possible remedy, the physician generally gives directions for the application of the remedy. Not to carry the figure too far, let me say that any teacher with the right spirit can find a way to take up some phase of Nature-Study work in her school. Adaptability is one of the good qualities that inheres in the Nature-Study idea. There may be scores of best ways of presenting the subject, each one adapting itself to the needs of the particular teacher. It would be wise, of course, to begin with some natural object, or group of objects, with which you are more or less familiar. Having exhausted the possibilities of that, you will be drawn on to other things concerning which you will easily find a way to inform yourself. Complete technical knowledge of the subject in hand is not as essential as spirit and enthusiasm.

Perhaps the idea of school gardening attracts you. If so, investigate the subject and make a beginning this fall. Have the children spade up a small bed in the school yard and, under your direction, set some bulbs of early spring blooming plants, as tulips and narcissus. These will brighten up your yard in the spring before school closes and, still better, suggest many things to your



pupils. Window-box gardening can follow in March, after all danger of freezing in the school room is past. Then in the warm days of early April prepare plats for some of the fall bloomers—asters, dahlias, chrysanthemums, cosmos. The work of caring for these plats during the summer vacation may be apportioned among the pupils, two or three volunteers being assigned to each week. If your school work does not close until the middle of May, a small model vegetable garden may be prepared on the school ground, the pupil being encouraged to repeat the experiment at home. A reliable seed grower's catalogue or garden book will probably contain all the directions necessary to successful propagation and cultivation of the plants.

Improvement of the school grounds should interest every teacher who desires to instruct in the ways of civilization as well as in text-book lore. Many a school yard in Kansas is a disfigurement on the fair face of nature, because no one in the district has had the right point of view. It takes but one interested person to organize a campaign for improvement. Clean up the grounds; plant trees, groups of shrubbery, and vines to screen the out-buildings. It might be well to add, take care of them after they are planted.

Primary studies with plants, soils, insects and the like can be undertaken to advantage in the school room, provided the teacher has sufficient knowledge to deal with these subjects. Impart what you have at hand and grow into the next requirement, is a good motto for the teacher of Nature-Study. Germination experiments, seed testing, seed dispersal, the lesson of the water-worn rock, interesting chapters in the life histories of insects—all these and many other subjects will find a place on your program in good time. No in-door work, however, can properly be substituted for the short excursion to the field, the pond, or the bit of woods along the creek. To gain a vital interest in things we must study them in their natural environment.

The boys' corn-growing contest inaugurated in Kansas this year is a move in the right direction. It marks one of the points where the paths of Nature-Study intersect the lines of practical agriculture. In fact, a great deal of the Nature-Study work in farming regions should be given a primary agricultural trend. Some sort of contest in which the girls might participate should also be planned. The small experimental plat in which ambitious boys and girls may work out their own sweet wills in the matter of planting, cultivating and harvesting is a whole agricultural college in itself. If it isn't a plat of ground, let it be an experiment

in raising a Jersey calf or managing a breed of chickens or ducks. All these things have their culture value and serve as well to link the boy and girl to the home life of the farm.

In conclusion, it must be admitted that Kansas is behind many other states in the matter of organizing and directing work in Nature-Study and primary agriculture. While much has been done along these lines by interested, enthusiastic teachers, yet the growth of the idea has been but sporadic. We need organization, and the sooner we get it the better. In some states the work is being directed from the college of agriculture, in some from the office of the superintendent of public instruction, and in others it is in charge of a bureau having no connection with either the department of public instruction or the agricultural college. The line of communication between the bureau, office or college on the one hand and the teacher and pupil in the school room on the other is usually established by means of leaflets. In addition, the teacher is reached by public lectures and by short-session summer schools having courses especially designed to meet the requirements of Nature-Study and primary agriculture. The leaflet is intended to present in a simple and interesting manner the facts and queries concerning one or more classes of natural objects. With a leaflet in hand the untrained teacher is prepared to enter at least one field with some assurance of success. Cornell University, a pioneer institution in the work, now issues leaflets in four different series: one designed for boys and girls, one adapted to the needs of teachers, and two which outline courses of reading for the farmer and his wife. Junior Naturalists' Clubs, Young Gardeners' Clubs, and like organizations are also a part of the general scheme to direct the minds of boys and girls natureward.

THEO. H. SCHEFFER.





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### Local Notes.

Doctor Schoenleber made a trip to western Kansas last week to investigate an outbreak of glanders.

The domestic science short course will begin next week. Professor Calvin expects to enrol a hundred young women here on Tuesday morning.

Thursday evening, at the domestic science building, the Y. M. C. A. gave a reception to the new students. About three hundred young men were present.

Prof. C. W. Burkett, the new director of the Experiment Station, and Mrs. Burkett will occupy the "Mitchell house" at the corner of Fourth and Houston streets.

Looking over the roster of the Faculty our friends will find many new names, especially among the assistants and instructors. We publish in this number some biographical notes concerning one of the new appointees and shall give similar notes about others a little later.

Prof. William Anderson, who has been assistant in physics at the College, has accepted a position in the physics and mathematics department of the Michigan School of Mines at Houghton, Mich. Professor Anderson has a host of friends who will rejoice over his promotion.

The live-stock judging class will make a visit to the farm of F. M. Gifford, near Milford, Geary county, where they will judge the short-horn cattle that are kept on the farm and will brighten up their judging faculties preparatory to their trip to the International Show at Chicago this fall.

The Kansas fairs are drawing on the College men for a great deal of judging, both in stock and grain departments. Professor Kinzer has judged at Bellville and at the State Fair at Hutchinson. Instructor Wheeler has been at Marysville, Mr. F. L. Williams at Spring Hill, Mound City and Mankato, and Assistant Willson at Stockton.

Among the visitors at the College during the summer was Prof. A. S. Hitchcock, for many years professor of botany here, who stopped off with his son Horace and had a look at his farm, as well as a brief visit with friends and his old department. He was on his way to the mountains on a collecting trip in the interests of the herbarium of grasses in the Department of Agriculture. He stopped again on his return. The professor holds this institution in such high esteem that he expects to educate his children here.

The enrolment of the present term already exceeds by more than 200 that of any previous term, and the students are not all assigned. Belated students are coming in with every train and a full hundred of short-course students will be enrolled next Tuesday. It is possible that there will be 1500 here for the fall term, which will mean more than 2000 for the year. A complete statement by classes will be given in the next issue of the INDUSTRIALIST.

The next annual meeting of the American Association of Farmers' Institute Workers will be held at Baton Rouge, La., November 12 to 14, 1906. At the same place and beginning November 14 will be held the annual meeting of the Association of American Agricultural Colleges and Experiment Stations. Arrangements are being made with the several passenger associations of the railroads of the United States for reduced rates of transportation covering the period of both meetings.

Professor Kinzer reports the following results in showing College stock at the St. Joseph Fair: First prize for two-year-old Shorthorn; second prize for one-year-old Shorthorn; first prize for Shorthorn calf; first prize for Shorthorn herd; champion Shorthorn; first prize for yearling grade Shorthorn; champion grade Shorthorn; first prize for Angus calf; second prize for two-year-old grade Angus; second prize for one-year-old Hereford. The cash winnings amounted to \$240.

The Regents attended chapel on Thursday morning and feasted their eyes on the multitude of young Kansans thronging the Auditorium. Mr. Fairchild addressed the students on behalf of the Regents. He spoke of the necessity of forming proper habits and building up strong characters in youth, giving it as his experience that habits once established would remain a life time. He urged all to read good literature and to keep posted on the main occurrences of the present. Professor Fairchild has been a member of the Board for eight years, but as he is the nominee of the republicans for State Superintendent, this was probably the last quarterly session which he will attend.

Mr. Theo. H. Scheffer, A. M., of the Department of Zoölogy of this College, has prepared a book which he calls "The Loose Leaf System of Laboratory Notes for Guidance in the Direction and Elementary Study of Animal Types." The volume is being published by the well-known firm of Blakiston, Son & Co., of Philadelphia, and is a typographical beauty. The leaves are held in place by a binding that permits the insertion by the student of notes and drawings. The subject-matter covers the dissection and investigation of twenty-one types belonging to nine different orders, and includes explicit directions for the student concerning his work, the required observations and experiments, drawings, inscriptions, etc. The book is evidently a practical laboratory manual, and we predict for it an extensive use in schools where biological science is properly taught by modern laboratory methods.



President and Mrs. Nichols gave a reception to the Board of Regents and to the Faculty and their wives at East Parkgate on Thursday night.

The regular fall term session of the Board of Regents was held at the College last Wednesday and Thursday. Much routine business was transacted. The matter of asking the next legislature for appropriations was discussed. Assistants Dow, Dean and Eastman were given the title of instructor, and Asst. Prof. Roy A. Seaton was transferred from the Mathematical to the Mechanical Engineering Department.

President Nichols was in Garden City, September 3, and leased forty acres of farm land three miles northeast of the city for an experimental station. The government furnishes the funds to carry on the work, but its supervision will be in the hands of this College. The work will be in the nature of experiments in dry farming, in determining the best methods to pursue, deciding upon such grains and plants that will do well without irrigation, and in efforts to improve plants already grown here. Suitable buildings are to be erected at the station and active work is to be commenced this fall in order to be ready for the spring work. This station will undoubtedly result in much good to the farmers of western Kansas and will add to the prominence and importance of Garden City.

The lecture course for this year is the strongest course ever scheduled by the lecture-course committee. It has been dated with the idea in view of making it convenient for all down-town people to attend, in that there are no Saturday or Wednesday evening dates in the entire course. A program of the course and the respective dates are as follows: Dunbar Male Quartet—Friday, October 5; Geo. R. Wendling—Friday, November 9; Carter and Wife (Magicians)—Friday, December 7; The Bohumir Kryl Company—Friday, January 11; J. B. DeMotte—Tuesday, January 29; Dr. E. W. Oneal—Tuesday, February 12; Rufus King—Friday, February 22; Manning Glee Club—Tuesday, March 12; Senator Tillman, April (date not known). Tickets on sale at Willard's drug store and Students' Coöperative bookstore.

Football practice began Friday afternoon. Almost all of the old men are back and many new candidates are trying for the vacancies. Mr. Ahearn will coach the team again this season and he thinks the prospects are very bright and that he can get the team in shape for the game here October 13. The following is the schedule: October 13, Haskell Indians at Manhattan; October 22, College of Emporia at Manhattan; October 27, Washburn College at Topeka; November 5, Fairmount College at Manhattan; November 12, Ottawa University at Manhattan; November 24, University of Kansas at Manhattan; November 29, Kansas State Normal at Manhattan. Second-team games will be played with K. U. freshmen at Lawrence and with the Kansas State Normal school at Emporia. Season tickets for the football games on sale at Elliot's clothing store and at Knostman's clothing store. Price, \$1.25.

Speaking of the Kansas State Fair at Hutchinson, the *Kansas Farmer* makes the following report of the efforts of this College: "The Kansas Agricultural College takes an active interest in the larger fairs of the State. Prof. R. J. Kinzer, of the Animal Husbandry Department, who won much credit for his prize-winning exhibit of breeding and fat cattle at the Kansas City American Royal and the Chicago International Live Stock Show last year, was present and assisted Col. W. A. Harris in judging the various cattle-rings. Prof. Oscar Erf made the best display that has been made west of the Mississippi this year. Prof. V. M. Shoesmith was present at Hutchinson and assisted in the judging and the direction of the students of the contests in the department of agriculture, and Prof. Albert Dickens made the handsomest horticultural display on the grounds. The larger portion of the dairy building was occupied by the working dairy exhibit of the Kansas Agricultural College under the direction of Oscar Erf, professor of dairy husbandry. This was a remarkably fine showing of an actual working dairy in operation, and while not so large as the display made by the College at the Topeka State Exposition last year, it had all the essential features of a commercial dairy and had the added advantage of the new milking-machine in operation. Mr. C. F. Stone, of Peabody, Kan., led four of his famous Holstein cattle up to this building three times a day to be milked by the machine. And while the building was well filled with visitors at all times, when this machine was in operation the crowd amounted to a crush."

Old students and former members of the Faculty will be pained to learn of the passing away of Ex-Regent Alfred P. Forsyth, who died at his home at Independence, Kan., after a short illness, at the ripe age of 77 years, 3 months, and 9 days. He was born in New Richmond, O., May 24, 1829. At the age of twenty-two he was united in marriage to Miss Louisa F. Hinkle. Six children were born to them, three of whom survive. In the death of Mr. Forsyth the State loses an honorable and useful citizen: one of whom it can be said he had lived a life of purity and activity. Colonel Forsyth was a man of large stature, commanding appearance, and massive intellect. He took an active part in all public matters, and many of the earlier residents have sat under the spell of his masterful oratory in political campaigns. In his younger years he was one of the most prominent and most sought after political speakers in Kansas. He was broad and liberal minded; yet positive and assertive. He had the confidence, respect and loving esteem of all with whom he came in contact, and as an expression of their high regard for his integrity and ability he was elected to and served as a member of the forty-eighth congress from the Fifteenth district in Illinois. At the close of his congressional services he removed to this State, in 1881, and located on a farm southeast of Independence. He soon attracted attention by his sterling worth and marked ability and was made a member of the Board of Regents of the State Agricultural College, which position he filled for nine years, both as a member and as its President.

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The new smoke-stack of the power-house is completed. It will be used as soon as the smoke conductors can be put in place. It overtops the old stack by about fifty feet and is visible for miles. It required two car-loads of cement, fifty loads of ashlar stone, 80,000 pressed brick, several thousand fire-brick and a large quantity of sand, lime, rubble stone, etc., and has cost nearly \$4000.

The new Horticultural Hall is nearing completion, though it may take six weeks or more to get it ready for occupation. The building is the most substantial structure "on the hill." Its outlines are simple, but pleasing. The class rooms and offices are roomy and the stairways broad. A heating tunnel has been built from the Agricultural Hall this summer and Engineer Lund is making preparation to lay the heating pipe in a few days. A large greenhouse will be built this winter southeast of the Hall and as soon as this can be completed the old greenhouses will be torn down and leveled. The two lower stories will be occupied by Professor Dickens and his assistants, and the third story by Professor Roberts and the Department of Botany.

### *Alumni and Former Students.*

Maud Zimmerman, '02, is teaching natural science in the high school of Oswego, Kan.

A. T. Kinsley, '99, and Anna (Smith) Kinsley, '01, are happy in the birth of a son, August 31.

Jessie Hoover, '05, is teacher of domestic science in the high school of Idaho Springs, Colo.

Grace Allingham, '04, is teacher of domestic science in the United States Indian School at Chilocco, Okla.

Cora McNutt, '05, has succeeded Florence (Ritchie) Dearborn, '04, as teacher of domestic science in the Girls' Industrial School, at Beloit.

Pearl Theodore Joss is the name of the baby boy who came to the home of J. W. Joss and Emily (Wiest) Joss, '04, of Fairview, Kan., on September 11.

Geo. L. Clothier, '92, was married Tuesday, August 14, to Miss Antoinette Ames, of Westmoreland county, Virginia. The bride was formerly of Junction City.

Gertrude Hole, '06, has been employed as teacher in the city schools of Manhattan. Alma McRae, '06, is also in Manhattan and teaching the Hunter Island school.

Emma Finley, '97, was married September 4 to Mr. A. H. Schroder, a prominent business man of Pomona, Cal. Their address is 625 North Garey Ave., Pomona, Cal.

Miss Henrietta Hofer ['02], who recently completed a course in voice culture in Chicago, now has a position as instructor of voice in the Graceland college, at Lamoni, Ia.—*Mercury*.

Crete Spencer, '05, is teacher of domestic art in the manual training high school of Kansas City, Mo.

Dr. E. C. Joss, '96, has been given charge of the inspection duties connected with the Portland, Oregon, station of the Bureau of Animal Industry, and his address will be Lents, Ore.

Alfred C. Smith, '97, and Mary (Waugh) Smith, '99, have moved into a new home at 207 Harvard Avenue, North Seattle, Wash., where they will be glad to meet their friends, new and old.

Emilie Pfuetze, '98, and Charles William Samuel were married June 20 and are at home to their many friends in Manhattan, where Mr. Samuel is a popular salesman in the Elliot clothing store.

David Fairchild, '88, is the father of a son, who is named Alexander, in honor of his grandfather, Alexander Graham Bell. This is the first grandson of Ex-President Fairchild to bear the family name.

Ora G. Yenawine, '95, has taken up her duties as teacher of domestic science in the Kansas City, Kan., high school. Minnie Howell, '01, fills a similar position in the high school for colored students in the same city.

William Anderson, '98, after a number of years of efficient service here as assistant in mathematics, and later as assistant in physics, has accepted the instructorship in physics in the College of Mines at Houghton, Mich.

On September 5, W. B. Banning and Flora Ballou, both of the class of '04, were married at the bride's home, Delphos, Kan. They are at home to their friends at Lyndon, Kan., where Mr. Banning is engaged in farming.

C. C. Smith, ['94] will leave to-morrow for Seattle, Wash., where he expects to locate if satisfied with the country. His wife and children and mother, Mrs. J. T. Smith, will probably join him in about two weeks.—*Mercury*, Sept. 19.

Harry Vinall, '03, has resigned his position with the Crete (Nebr.) Nurseries to take one in the Bureau of Plant Industry. He will be engaged in work connected with a number of investigations of grasses and forage plants.

At the home of the bride's parents, near Pomona, Kan., on September 5, occurred the wedding of Martha Nitcher, '01, and George Russel Sowers, of Ames, Iowa. Mr. and Mrs. Sowers go to their home near Ames, followed by the good wishes of many friends.

R. W. Clothier, '97, professor of agriculture and chemistry in the Third District Normal School, Cape Girardeau, Mo., has just been elected professor of agriculture and horticulture in the University of Florida, at Gainesville. His duties will consist of teaching only, and he will have four months entirely free, which he hopes to use for study and research.



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## *Agricultural College "Wheat" Trains.*

Last summer, in pursuance of the general idea of carrying the Agricultural College to the farmers, the Farmers' Institute Department arranged for "wheat" trains, one over the southwestern lines of the Santa Fe and the other over the western lines of the Union Pacific Railroad. When this matter was presented to the proper authorities of the railroads it met with a very hearty response on the part of the far-seeing managers of these roads. It was presented as a matter of business—the business of helping men raise more wheat, and the railroad men recognized their interest in that proposition. It was something of an experiment, too, for these trains to be run in the busiest season of the summer, but it was thought that the farmers would be more interested in hearing lectures on "Wheat Culture" at the very time that they themselves were working and studying the subject than at any other time of the year. It was thought that, while it might not bring as many people at that season, it would bring the thoughtful ones and they would be more likely to at once attempt certain methods recommended. That this idea was correct was attested not only by the large attendance but by the evident interest manifested by the farmers who came.

On August 13 the Santa Fe train, consisting of two commodious lecture cars, started at Wellington at 8 o'clock. The railroad company was represented by Mr. S. W. Black, of the immigration department, who had charge of the train. The speakers from the College, of course, were Professors TenEyck and Willard and Assistant Professor Shoesmith. About the middle of the week Mr. L. A. Fitz, a graduate of the Agricultural College, and now employed in the United States Department of Agriculture as seed specialist, joined the force of speakers. This train went southwest to Kiowa, to Medicine Lodge, Englewood, Pratt, Kinsley, Jetmore, and Scott City, and back to Florence, and in the six days there was an aggregate attendance at the lectures of nearly 7000 farmers. In many cases the crowd not only filled both cars but was so large that a third speaker would have to address those on



the platform. In many cases when the train was going out on the branch lines, a speaker was left off at the smaller towns and the lecture was given on the platform or in a hall while the train would go on to the end of the line and return. On the whole, it was a very satisfactory trip and attested to the intelligence and interest of the Kansas farmers in the improved methods of farming, and also showed that the Agricultural College with its professors was held in high respect. The Santa Fe, through its representatives, was exceedingly courteous and thoughtful and the speakers from the College, the guests of the company for that week, certainly appreciated the courtesies extended.

On August 27 the Union Pacific Railroad Company, also deeply interested in wheat culture in Kansas, equipped a train for educational work on its lines, and the first lecture was given at Chapman at 8 o'clock that morning. This train, in addition to the lecture cars, had a Pullman buffet sleeper in which the speakers and other guests of the road were entertained throughout the trip. Here, as on the other trips, there was a most marked cordiality on the part of the farmers who came to the lectures, many driving 15 or 20 miles to hear the advice of the lecturers from the College. On this trip Mr. Shoesmith's place was filled by Mr. Elling, foreman of the Hays Branch Experiment Station. Practically the same lecture, "Wheat Culture," was given by all the speakers, emphasizing the importance of good seed, a good seed-bed, and fertile soil. This trip lasted only four days, the train going as far as Weskan on the main line, back over the Lincoln Branch to Solomon, and north to Beloit, the four days giving us an attendance of about 4000 people. The Union Pacific train was under the management for the first day of Mr. J. B. Frawley, of the passenger department, and for the remaining days was directed by Mr. Nance, of the freight department, and these men, with other officials of the company, left nothing undone to add to the comfort of the College speakers.

One result of the trip, and a good result too, was the sale and distribution of all the seed-wheat that the College had for sale. This wheat was sold, usually in three- and five-bushel lots, the maximum amount furnished to one farmer being ten bushels. Correspondence that has come to various departments of the College since, and correspondence that has gone to the railroad companies, proved that the farmers appreciated very keenly the helpful instruction given them by the speakers and also the spirit of helpfulness that actuated these men in going out to this kind of hard work, a work that they are really not employed to do, but

which they do cheerfully because they are interested in advancement of the State. There was also manifested a very kindly feeling toward the management of the railroad companies for making it possible for these men to go out and give the instruction they did.

The Institute Department hopes to have one or two more "educational" trains this year on other subjects.

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### ***Seed-Corn—Crop of 1906.***

The Agronomy Department of the Kansas State Agricultural College will have "Choice Seed-Corn" for sale for next spring's planting, as follows:

McAuley's White Dent, a medium late maturing corn.  
Boone County White, medium in season.  
Silvermine, a medium early maturing variety.  
Hildreth, a rather late-maturing, large-eared corn.  
Kansas Sunflower, a medium late maturing, yellow corn.  
Legal Tender, a Yellow Dent variety, medium in season.  
Reid's Yellow Dent, a medium early maturing variety.  
Hogue's Yellow Dent, a variety similar to Reid's Yellow Dent, but perhaps a little earlier in maturing.

The McAuley's is one of our best producing varieties of White Dent corn. It is a "native" Kansas corn, similar in type to the Boone County White. The Boone County White and Silvermine are "Pure Bred" varieties of corn introduced from Iowa and Illinois. The corn has been grown at this Station for three seasons, and we have been doing some careful seed selecting.

The Hildreth corn is late in maturing, but is one of the best producing varieties which we have tested at this station during the past three years. It is well adapted for growing on fertile soil, and gives large yields in favorable seasons. The corn does well on the upland soil of the Station farm, where the trials of the past three seasons have been made. This variety is a "native" Kansas corn, as is also the Kansas Sunflower. The last-named variety is an excellent producer and a little earlier in maturing than the Hildreth. The ears are smaller and the stalks are not quite so large. It is well adapted for growing on upland, but produces the largest crops on fertile soil. The Reid's Yellow Dent, Legal Tender and Hogue's Yellow Dent are similar in type and are varieties which we have introduced from other states: Reid's from Illinois, Legal Tender from Iowa, and Hogue's Yellow Dent from Nebraska. As types of medium early maturing corn, these varieties are excellent producers. We have grown this strain of



the Reid's Yellow Dent for five years, this being our fourth selection of seed. The Legal Tender and Hogue's Yellow Dent we have only grown at this Station one season. All other varieties have been grown here for four seasons.

I would not recommend the seed of any of these varieties of corn for planting in Western Kansas, since this corn is not adapted for growing in that section of the State. Perhaps our seed-corn is best adapted for growing in the Central and Northern sections of the State, but it will do well in Southeastern and Southcentral Kansas. McAuley's, Boone County White, Hildreth, Kansas Sunflower, and Reid's Yellow Dent may be well adapted for growing in the South and Southeastern parts of Kansas. For the Central and Eastern parts of the State, any of the varieties named should succeed well. For the Northern section, the Hildreth corn matures a little too late to make a sure crop, and the McAuley's and Kansas Sunflower are a little late in maturing for growing in the most Northern counties of Kansas. The other varieties named are well adapted for growing in that section of the State. For the Northwestern counties, such as Phillips, Norton, and Decatur, the Hogue's Yellow Dent succeeds well, and the Boone County White, Legal Tender and Reid's Yellow Dent may be recommended for trial in that section of the State.

I will not go into detail here and give our methods of selecting and breeding seed-corn. I believe, however, that we have improved the type, purity and quality, and productiveness of each of the several varieties of corn, seed of which we are offering for sale.

We are selling our seed-corn in three grades, as follows:

First grade, in the ear, shipped in crates, at \$2.50 per bushel of seventy (70) pounds of ears.

Second grade, either in the ear, in crates, or shelled, fifty-six (56) pounds per bushel, in sacks, at \$1.50.

Third grade, shelled, fifty-six (56) pounds per bushel, at \$1.00.

These prices are f. o. b. Manhattan, no charges being made for sacks. The first-grade corn is selected from the field early in the fall, as soon as the corn is fully matured. Care is taken to select for uniformity, both in the stalk and ear. This corn is all carefully dried in our seedhouse. The second-grade and the third-grade selections are made at husking time, and we plan to husk rather early in the fall, before freezing weather. The better grade of ears is classed as second grade and sold either in crates or shelled, as preferred. The third selection consists of ears which have good kernels and are of good type, but are not suffi-

ciently perfect to be sold in the ear. The tip and butt kernels are removed from such ears and the corn is shelled.

All of the seed-corn is the product of a very choice selection of seed-corn which we planted last spring. There is really little difference in the different grades of corn, so far as the pedigree is concerned, merely a different selection of seed ears from the present crop.

Our supply of first-grade seed is limited, and I prefer to sell only a bushel or less of the first-grade seed to one farmer. If any farmer desires more seed-corn for planting a large field, he may purchase the second- or third-grade corn and plant it on the out-sides of the field in which he plants the first-grade corn. I prefer not to sell more than five bushels of seed-corn to one farmer, the purpose being to distribute this seed corn as widely over the State as possible.

A. M. TEN EYCK.

### ***A New Director at the Kansas Experiment Station.***

The Regents have recently taken a new and important step in the way of keeping up with the work of promoting agricultural affairs. For many years some one of the already hard-worked men connected with the Experiment Station has had the title and the clerical work of the director, without assuming to direct, each specialist doing his own work in his own way. Under Professor Willard's tenure the literary and clerical and record work of the office has been admirably handled. But it added to his regular duties of Experiment Station chemist and professor of chemistry. Now an especially well-qualified man has been elected to the office of director of experiment station with no other duties. But as this will include general oversight of all experiments carried on at Manhattan, and at the Hays Branch Station and at the United States Government Coöperative Experiment Stations at McPherson and Garden City, he is not likely to have much idle time on his hands.

Dr. C. W. Burkett, recently elected director of the Kansas Experiment Station, comes to Kansas from Ohio, but he has had a varied and valuable experience. He is a native of Ohio and was educated in the public schools and the State University and Agricultural College of that State. After graduation he remained there for four years as instructor in agriculture, when he was called to New Hampshire as professor of agriculture and agriculturist of the Experiment Station. When he went to New Hampshire he found two students electing to take agriculture, no equipment; and no special buildings. At the end of three years, he left



a fine agricultural building in course of construction with 65 students choosing the agricultural course.

When Mr. Aycock was elected Governor of North Carolina, he declared that the State Agricultural College must make agriculture the leading feature. The trustees of the Agricultural College selected Dr. Burkett to organize the work in North Carolina. He found there no special equipment and eleven students electing agriculture. At the end of five years he left nearly 200 regular students in the agricultural course and a \$140,000 agricultural building—one of the finest in the United States.

These signs of work done indicate that Dr. Burkett will be a valuable addition to the force of unselfish workers at the Kansas Agricultural College, who have served the State in college and institutes. He has done much public work which proves that he is the kind of a man needed. While in New Hampshire he did considerable work in farmers' institutes and public meetings, but in North Carolina he was a missionary to farmers and to their children. He was closely associated with the State Board of Agriculture in organizing farmers' institutes in all parts of the State, holding district and State conventions of farmers, and also holding for the last three years at the college in July a big convention with a thousand farmers who came and stayed a week. They had a two-hours' walk over the farm each morning from 6 to 8 and lectures from 10 to 12, from 1 to 3, and from 3 to 5 on cotton, corn, tobacco, dairying, horticulture, stock-raising, etc.

In addition to this work he was associated with the State Superintendent of Schools for educating the children in agriculture. To this end a law was passed requiring agriculture to be taught in the rural schools, and the teachers had to be trained. District institutes and State meetings of teachers were held, enrolling more than 3000 teachers each year where instruction was offered in the elements of agriculture. This was kept up until now agriculture is required by law to be taught in the rural schools of North Carolina, a subject that the average country teacher can teach better than she can teach grammar or physiology. Last winter the regents of the Ohio State University called Dr. Burkett back to Ohio to become the director of the short courses in agriculture and other forms of extension work. He went to Ohio in May, 1906, and inaugurated a system of lectures on agriculture before the school-teachers of the State. When the Kansas Board of Regents offered him the position here of director of experiment stations, the offer proved so inviting that he asked the Ohio University to release him. He is now in Manhattan with his family

and hard at work. He will be assigned this year to considerable institute work where the farmers may meet him, and it is also hoped that more than a thousand farmers, young and old, may meet him in Manhattan this winter at the State Institute, December 27 to January 5. In addition to several bulletins on agricultural subjects, Dr. Burkett is the author of "Agriculture for Beginners," a text-book, and a book on "Cotton" and a joint author with Professor Hill of a new series of school-readers, a series full of the breath of country life.—*Kansas Farmer*.

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### ***The Dairy Exhibit at the Kansas State Fair, Hutchinson.***

The State Fair held at Hutchinson this year was the most successful fair ever held in Kansas. It is claimed that 70,000 people attended this fair during its session, 34,000 paid entrances being taken in in one day. The exhibits were all attractive and extensive. Agricultural products of high quality were displayed in great quantities. The stock exhibited was extensive and of high quality. The implement exhibits were probably more numerous than at any other fair heretofore held in the State. Many other features were to be seen which were new and novel, but the most attractive exhibit of all, and the one which received the grand prize, was the dairy exhibit of the Dairy Department of the Kansas State Agricultural College. One fair official claimed that this exhibit was worth \$10,000 to the fair.

The dairy exhibit was planned in an ideal manner, attractively decorated, and showed the complete operation of the dairy business. A handsome cow bowery was arranged on one side of the new dairy building, which was built purposely by the Fair Association for the exhibit this year, under which the cows were placed in stanchions and were there fed and milked with the milking machine. The milk was then passed to the separators, where the cream was separated from the milk. All of the leading machines were in operation, showing the efficiency of their mechanism, and after the cream was separated it was pasteurized and churned into butter according to the new process which has been recently developed at the Kansas State Agricultural College. People from all over the South came to see this demonstration. Representatives from southern Missouri, Indian Territory, Oklahoma, Texas and New Mexico were in evidence in great numbers. Many of them have expressed themselves that their sole reason for coming to the Kansas State Fair at Hutchinson was for the purpose of seeing the milking demonstration.



A great deal of credit is due to the manufacturing companies who assisted the College in perfecting this exhibit. The Creamery Package Manufacturing Company, of Kansas City, exhibited their pasteurizers and testers and made it possible for the churning of butter. The Jensen Manufacturing Company also exhibited its pasteurizers and cooler. The Sharples separator, exhibited by the John Deere Plow Company, the United States Separator Company, of Bellows Falls, Vt., the De Laval Separator Company, of Poughkeepsie, N. Y., the Iowa Separator Company, of Waterloo, Iowa, and the Empire Separator Company, of Bloomfield, N. J., all exhibited their machines and all operated them to show the perfect working of each of their individual machines. Credit must be given to the International Harvester Company for the gasoline engine which they contributed to operate the dairy manufacturing machinery. The Root & Vandervort Company exhibited their gasoline engine, which operated the milking machine.

The dairy building at the Fair was designed by Prof. J. D. Walters, of the Architectural Department of the Kansas State Agricultural College. It is one of the most magnificent buildings on the grounds. It is thoroughly equipped for creamery operations, built of wood, with cement floors.

The equipment was installed by the able students, Mr. W. E. Watkins and Mr. A. B. Nystrom, who were trained in the Dairy Department of the Agricultural College.

It is of considerable pride to the authorities of the Agricultural College to note the success of the achievements in exhibiting for the first time at this fair. Three years ago a member of the department presented the matter of putting an exhibit at the State Fair at Hutchinson to the fair authorities, but little notice did he receive in his presentation. Two years ago a promise was made, and last year an invitation was given to the department to exhibit, but owing to the extensive and successful exhibit at Topeka that year it was impossible to make another exhibit at the Hutchinson fair. The fair authorities began to realize the importance and magnitude of this great industry, and this year for the first time in the history of Kansas has a dairy building been built for the purpose of exhibiting dairy operations.

We hope that the good work will continue, and that in the future the success will be as great as it has been in the past.

***Domestic Science and Art Short Course.***

The opening of the Domestic Science and Art Short Course last Tuesday demonstrates two things: first, that the farmers of Kansas are appreciating this course and its advantage to their daughters, since seventy-five Kansas farmers sent their daughters here this week, and others are expected next week, against fifty-five last October; second, the necessity of a new Domestic Science building. The short-sighted economy of Kansas legislators in the past has been the cause of too many small buildings, at this, the farmers' college—buildings erected to meet present demands instead of for the future. Almost every request for money for buildings at the Kansas State Agricultural College has been met half way; that is, half enough money has been granted for the benefit of farmers' sons and daughters for suitable buildings.

Last year nearly six hundred young women received instruction in Domestic Science and Art in a building that is large enough to accommodate not over three hundred. The three domestic science laboratories will accommodate but sixty-three students, and now are taxed to the limit for seven hours a day, when they should not be used every hour, making it almost impossible to accommodate all on account of class work and leaving no opportunity for laboratory preparation. This year the number of young women to be instructed in this Science building will be fully seven hundred fifty. Every Kansas farmer who has a daughter in the Agricultural College and every one who expects to send a daughter here in the future should be interested in having an adequate building here for Domestic Science and Art. It is certainly as important to train the young women of Kansas in Domestic Science and Art as it is to educate lawyers and doctors. Better housekeeping will lessen the demand for both doctors and lawyers. One hundred thousand dollars could be well expended in a women's building here—one that would be adequate for several years. The present structure is about the size of a four-room ward school building, while this Department has grown just 69 per cent in three years.

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***Call for a Meeting of Draft-Horse Breeders.***

The leading draft-horse breeders of Kansas have long felt the need of a State organization, not only for matters of legislation, but for mutual improvement and for the advancement of this great business. Many have indicated a desire to have such a meeting, and I therefore issue a call for a meeting of all Kansas breeders of draft horses, the meeting to be held at the Kansas State Agricul-



tural College, Manhattan, Kan., Wednesday, January 2, 1907, at 4:00 P. M. This first will be a business meeting, to be followed by a regular session at 10 o'clock Thursday morning. At 8:15 Thursday morning a drill in horse judging will be given in the judging pavilion. I will take it as a great favor if all who expect to be present will notify me very soon and make some suggestions as to the program. We expect to have with us all week Mr. Jos. E. Wing and Mr. F. D. Thompson, of the *Breeders' Gazette*. During this same week there will be held here the following meetings: Corn Breeders' Association, State Good Roads Association, State Dairy Association, Swine Breeders' Association, and Aberdeen-Angus Breeders' Association.

R. J. KINZER.

### ***Agricultural College Field Work this Week.***

#### LECTURES.

Wednesday, Nortonville Institute, Professor Dickens.  
 Thursday, Topeka Horticultural Society, Professor Dickens.  
 Friday, Hiawatha Women's Clubs, Professor Dickens.  
 Thursday, Friday, Wakefield Institute, Professors TenEyck and Willard.  
 Thursday, Yates Center Institute, Mr. Wheeler.  
 Friday, LaHarpe Institute, Mr. Wheeler.  
 Saturday, Lawrence Institute, Professors TenEyck and Popenoe.  
 Friday, Abilene Fair, Professor Burkett.

#### STOCK JUDGING AT FAIRS.

Abilene and Glasco, Professor Kinzer.  
 Abilene and Wakefield, Mr. Willson.  
 ElDorado, Mr. Wheeler.  
 Greenfield, Mo., Mr. Williams.

#### CORN JUDGING AT FAIRS.

Lawrence, Oct. 3, Foreman Zuck.  
 Abilene, Oct. 3, Mr. Gernert.

### ***Call for a Meeting of Aberdeen-Angus Breeders.***

Several breeders of Aberdeen-Angus Cattle have expressed a wish that there might be a State organization of all engaged in breeding this valuable stock, as they thought an organization with a yearly meeting would be of great advantage. They have therefore asked me to issue a call for a meeting of all breeders of Aberdeen-Angus Cattle to be held at Manhattan, Kan., on Friday, January 4, 1907, at 1:30 P. M.

The meeting will be one of several meetings to be held here that week, during the State Institute. After the organization several addresses will be made by prominent breeders, by R. D. Thompson, of the *Breeders' Gazette*, by Prof. C. F. Curtis, of Iowa, and others. An invitation is also extended to all to be present at the other meetings that week.

R. J. KINZER.

# THE INDUSTRIALIST

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## Kansas State Agricultural College

Manhattan, Kansas.

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### Local Notes.

President Nichols will go to Topeka Monday to attend the regular fall meeting of the State Board of Education.

Professor Dickens made a trip to Garden City last week to inspect the experiments in oiled roads at that place.

We read in the *Herald* that Professor Weida, formerly assistant professor of chemistry here, is teaching in the Kansas City High School.

The Military Department has received 200 new Krag-Jorgenson rifles from the United States arsenal at Rock Island and Captain Shaffer has made a requisition on the War Department for 100 more.

The College Band, numbering about thirty members, under the leadership of Prof. Harry Brown, went to Kansas City Tuesday morning to toot for the Priests of Pallas. They returned Wednesday night covered with glory and dust.

The farmers' institute at Wakefield, attended by Professors TenEyck and Willard, with its accompanying show of fine stock, was a complete success. Mr. Willson, assistant in animal husbandry, judged the stock and pronounced the exhibits the best he has yet seen at an institute.

Manhattan will have a street carnival next week, to raise funds for a new court-house clock. Something over \$600 were gathered for the timepiece by subscriptions among the business men, and it is expected that the several stand concessions will raise the amount to the required \$1200.

Cases illustrative of the seed weevils of the family Bruchidæ are being made ready in the Department of Entomology for a place in the exhibit on the second floor of the museum. The illustrations consist of greatly magnified figures of the beetles, drawn from life and colored true to nature by Miss Ella Weeks, with specimens of the various seeds attacked, showing mode and amount of injury. Similar exhibits of the grain weevils and related insects are being assembled.

"Faculty row," along the west side of the city park, is becoming a prosperous reality. Professors McKeever and Valley have moved into their residences. Professors Brink and Hamilton are getting their houses ready for the plasterer. Professors Eyer and Dean are receiving contractors' bids for their homes. Professor Cortelyou is drawing plans for his house. The water and sewer lines have already been laid into the quarter. Electric light is there also, and a movement is on foot to lay a cement sidewalk.



Prof. Henrietta Calvin and Assistant Clara Willis went to Abilene, Thursday, to judge bread and preserved fruit at the Dickinson county fair.

Senior student E. D. Richardson spent his summer vacation in the College shops building a gasoline traction-engine. He gave it a try-out last week, and it ran in fine style, attracting a large crowd. Engines of this kind are rare. It is a four-cylinder, twenty-five-horse-power, and is geared to travel five miles per hour. As soon as it gets to running smoothly he expects to ship it to his home, near Glen Elder, Kan.

Captain Shaffer has announced the annual promotions in the College battalion. They are: Adjutant, O. O. Morrison; quartermaster, G. S. Warren; sergeant-major, E. J. Best, of the non-commissioned staff. For company A, captain, Lupfer; first lieutenant, Gaston; second lieutenant, Cave. Company B, captain, Ryan; first lieutenant, Bull; second lieutenant, Cassel. Company C, captain, Brink; first lieutenant, Philips; second lieutenant, Kratzer. Company D, captain, Lambert; first lieutenant, Cunningham; second lieutenant, Porter.

Three new assistants have been added to the Domestic Science Department this year. Ula Dow first, Miss Willis second, and Miss Russell third. Miss Dow, who graduated here in '05, has graduated since from Framingham (Massachusetts) Normal. She has made it her object to visit the domestic science schools around Boston, New York, and Philadelphia, so the department here should be the recipient of many new ideas. Miss Willis is also a graduate of the Framingham Normal. During the summer she has had charge of vacation schools at her home in New Bedford, Mass. Miss Russell, of Elkhart, Ind., comes to us from Mechanics Institute, Rochester, N. Y. The last year she has spent in settlement work in Akron, Ohio.—*Herald*.

Professor McCormick, of the Mechanical Engineering Department, spent his summer vacation at expert work under the direction of the Bureau of Roads of the Agricultural Department, Washington, D. C. For the first few weeks he was engaged in testing material, stone, cement, etc., for road use. Later he aided in laying out and starting a "model" road on government grounds in Washington. In August he and another government engineer were sent to Paintsville, Ky., to start a most difficult piece of road, a mile and one-eighth to cost \$64,000. Just before his return to Kansas he was sent to several of the Southern States to inspect road work done by cities and counties where work had been started according to government plans. Professor McCormick will be assigned to farmers' institute work in Kansas this winter to speak on roads. Where county or city authorities or others are considering extensive work in road building, he will be glad to correspond with them or personally examine their roads if they want him to do so. As with all other service from the Kansas Agricultural College, this may be had free, except for actual traveling expenses.

***Alumni and Former Students.***

A. C. Havens, '96, and Ruth (Bayles) Havens, are rejoicing in the birth of a son, September 15.

R. R. Birch, '06, recently returned to his home in Topeka after spending the summer in Sedgwick county. Ray is waiting for orders to go to the Philippine Islands, where he has been assigned to duty in the Bureau of Animal Industry.—*Students' Herald.*

New addresses: Lucie (Wyatt) Wilson, '01, Onaga, Kan.; Alice Loomis, '04, Peru, Neb.; H. N. Vinall, '03, Bureau of Plant Industry, Washington, D. C.; May (Bowen) Schoonover, '96, 228 Fifty-sixth street, Chicago, Ill.; E. O. Sisson, '86, 4739 Fourteenth street, N. E., Seattle, Wash.

W. E. Mathewson, '01, formerly assistant professor of chemistry here, is now at Goettingen, Germany, preparing for a year's university work. He is taking private lessons in the German language and expects soon to be master of the German bill of fare. He will probably go to Berlin, later.

H. B. Holroyd, '03, forest assistant in the forest service of the United States Department of Agriculture, is the author of circular No. 40, on the "Utilization of the Tupelo." It is a short practical article pointing out the methods by which this wood may be handled so as to be valuable. At present it is in such disrepute that it is usually sold under other names.

W. P. Tucker, '92, with the American Smelting and Refining Company, Aguascalientes, Aguas, Mexico, visited the College this week. Stella (Kimball) Tucker, '94, preceded him some weeks. Both are visiting relatives. Mr. Tucker states that the reports concerning the uprising of Mexicans against Americans were absolutely without foundation; that everything is as quiet and peaceful there as in Manhattan.

J. E. Payne, '87, has been selected to take charge of the Experiment Station at Garden City recently established and to be conducted by the United States Department of Agriculture and the College, coöperatively. Mr. Payne has gone out to start the work, though it is probable that he will be here much of the time next winter. He has had large experience on the Great Plains and is exceptionally well qualified for the new position.

W. T. Swingle, '90, physiologist in charge of plant life history investigations, United States Department of Agriculture, with Dr. H. J. Webber is reported to have produced two new and valuable fruits. The following concerning them is taken from the *Kansas Farmer*: "These two new fruits are called the tangelo and the citrange. The tangelo is what Dr. Webber calls a "kid-glove grape-fruit." It has a readily separable skin, is dark orange in color, slightly acid, highly flavored, rather sweet, attractive in appearance, and with segments that come easily apart. Of vastly more importance than the tangelo, however, is the citrange, which seems destined to revolutionize the orange-growing indus-



try in the Southern States. While most agreeable in flavor, it is hardy enough to endure the climate of all the Gulf Coast region. There are, in fact, two citranges representing distinct species, which are totally different from any citrus fruits hitherto known. One of them is the result of a cross in which the frost-proof Japanese orange was used as father, while in the other it was made to serve as mother. Already they have proved their ability to withstand severe frosts, enduring a temperature as low as six degrees above zero."

### *Enrolment.*

On the first Tuesday of the present term the total enrolment of students was 1265, that is, it was 203 names above that of the same date of last year. At this writing, October 5, the number has been increased by the addition of 68 students in the domestic science short course and 23 students in the regular four-year courses, making the total attendance 1356. Last year there were but 54 students in the domestic science short course. The following table gives the comparative number of students by classes present on the first Tuesday of the fall term of this year and last year:

|                  | 1905 | 1906 |
|------------------|------|------|
| Graduates.....   | —    | 8    |
| Seniors.....     | 87   | 115  |
| Juniors....      | 133  | 133  |
| Sophomores.....  | 180  | 209  |
| Freshmen.....    | 528  | 668  |
| Preparatory..... | 121  | 107  |
| Specials.....    | 13   | 25   |
| Total.....       | 1062 | 1265 |

### *College Needs.*

President Nichols was at Topeka last Thursday afternoon to consult with the State Auditor about our financial needs for the next biennial period. The greatly increased attendance will necessarily swell the amount of the required legislative appropriations considerably above that of any previous biennium. The following is a synopsis of the items that will be required:

|                                              | 1908      | 1909      |
|----------------------------------------------|-----------|-----------|
| Current expenses.....                        | \$140,000 | \$155,000 |
| Domestic Science building and equipment..... | 35,000    | 35,000    |
| Veterinary building and equipment.....       | 35,000    | 35,000    |
| Engineering building and shop addition.....  | 50,000    | 30,000    |
| Engineering equipment.....                   | .....     | 25,000    |
| Barn and judging room.....                   | 25,000    | .....     |
| Boilers and coal-house.....                  | 5,000     | 5,000     |
| Library stacks.....                          | 4,000     | .....     |
| Armory and gymnasium.....                    | 35,000    | 30,000    |
| Cement walks.....                            | 4,000     | .....     |
| Farmers' Institutes.....                     | 7,500     | 7,500     |
| Five stokers.....                            | .....     | 3,000     |
| Pipe machine.....                            | 1,500     | .....     |
| Totals.....                                  | \$345,000 | \$325,500 |

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MANHATTAN, KAN., OCT. 13, 1906.

No. 3

Farmers' Institutes.

Report of J. H. Miller, Farmers' Institute Secretary of the Kansas State Agricultural College.

Recommendations for Next Year.—Following the experiences of the past year, I want to make some recommendations or suggestions for the future. It must always be remembered that the farmers' institute is and should be a business organization, the sole purpose of which shall be to advance the farming interests of the community. It is not a religious, temperance, social, or political organization. These are all right in their place. And yet indirectly the institute is all of these and more. It is an organization of farmers and others interested in farming and in holding meetings to discuss crop-production, stock-raising, and home-making. With this thought I desire to make a few recommendations.

Have an Exhibit.—An orderly exhibit of grains, vegetables and fruits, butter, bread, cakes, etc., and even in some cases cattle, hogs, and poultry, is clearly in line with the above purpose. Last year many of the best institutes had excellent exhibits of some or all of these classes. It interested many who might not otherwise have come; it certainly brought more young people, and it had a good effect on the people of the towns and cities, and best of all was its stimulating effect for improvement. This exhibit need not be large. If corn is brought, I would recommend that ten ears constitute an individual entry; wheat and other small grains should not have an entry of over one peck; butter one pound; plates of apples need not have over five or seven specimens; single loaves of bread, and so on.

The exhibit should be in place before the opening hour of the institute. Tables should be arranged in a way to economize floor space, using ascending shelves. Whenever possible, the exhibit should be arranged in the hall where the institute is to be held, and as much as possible up about the stage or front, not near the door to invite loitering while the program is going on. If another room has to be secured, it should be kept locked during the institute sessions. Store shelving will do very well.

Where the stock exhibit is quite large, time must be taken from the program to allow of ample inspection, instead of trying to carry on a stock exhibit and a program at the same time. Poultry exhibits, no matter how small, should not be placed in the hall where the program is to be given. All arrangements for judges and judging should be completed before the day of the institute. The farmers' institute president should appoint capable committees and hold each responsible for doing its work and doing it on time. The exhibit should never be bigger than the institute. If it promises to be too large, assign it to a separate day. Where there is a boys' corn contest, or a bread contest for the girls, nothing should be allowed to overshadow these very important features.

Women's Auxiliaries.—Whenever there is a marked interest among the women for special sessions, it is recommended that a subordinate organization be formed to be known as the "Women's Auxiliary." There should be a chairman and a secretary, and one separate session should be held at the annual institute, although other meetings may be held as often as the members desire. This organization should have charge of the girls' contests for baking, sewing, etc. Where such contests are to be held, it is advised that the morning of the first day be devoted to the contests, essays by the contestants, and short talks by members, and the afternoon to a separate session of the Women's Auxiliary. Where the women do not desire to form an organization, a separate session might be held with a special program on matters pertaining to the home. Where there is a desire for such a meeting, the president of the farmers' institute should appoint very soon two ladies to act as chairman and secretary of such a meeting and arrange for a program.

Subjects for Programs.—It has seemed to me that it would be better if our discussions each year were limited to a comparatively few subjects. It will call for more after-discussion and allow of more publicity in newspaper reports. And then if our subjects each year be limited in number, the Kansas farm papers will naturally devote more space to these same subjects. Another year other subjects may be chosen. As a rule, too many subjects are put on a program and too many subjects that are impractical. It is suggested, therefore, that our programs for 1906-'07 be made up from the following list of subjects, modified and subdivided, of course, by local conditions: Corn-Breeding, Corn-Cultivation, Wheat-Culture, Soil-Culture, Preserving Soil Fertility, Pure Seed, Good Roads, Farm-Dairying, Orchardring, Tree-Planting, Breed-

ing and Feeding for Profit, Poultry on the Farm, Rural School Problems, Home-making. It is specially recommended that corn, wheat, and good roads be on every institute program next year.

Suggested Titles for Programs.—1. The Road Drag—Coöperation in Road-Making. Needed Legislation for Good Roads. My Experience with the Road Drag. The Road Drag and Then What? Observations on Road-Making. Stone Bridges and Culverts.

2. How to Keep the Boy on the Farm. How to Keep the Girl on the Farm. How to Keep the Old Man on the Farm.

3. Making the Woman's Work Easier. Inexpensive Home Adornment. The Darkened Parlor. Entertainment for the Children of the Farm. How to make the Evenings at Home More Attractive for the Children. Coöperation with the Children in Farm Operations. Pin Money for the Boys and Girls. Simpler Cooking in the Farm Home. The Country Home.

4. The Dairy-Cow and Her Feed and Care. Does Dairying Pay? My Experiences in Dairying. Suggestions on Butter-Making. Cheese-Making on the Farm. Feed for the Milk Cow. The Care of Milk and Cream. Dairying on the Farm.

5. The Needs of the Rural Schools. Consolidation of Rural Schools. Should the Elements of Agriculture be Taught in the Rural School? Beautifying Rural School Grounds.

6. Wheat-Culture. The Seed-Bed for Wheat. Need of Better Seed-Wheat. Conserving Moisture for Wheat. Importance of Pure Seed-Wheat. How to Grow Better Wheat.

7. Alfalfa, the Queen. The Alfalfa Seed-Bed. Cutting and Storing Alfalfa. Mistakes in Handling Alfalfa. My experience with Alfalfa. Alfalfa as a Pasture. Hogs and Alfalfa. Alfalfa as a Dairy Feed.

8. Poultry on the Farm. My Experiences with Poultry. Marketing Poultry. Feed and Care of Poultry.

9. Feeding Cattle for Profit. Feeding Hogs for Profit. Raise Your Own Stock. Suggestions on Breeding Hogs. Baby Beef. Raising Horses for Profit. Mistakes in Breeding Horses and Cattle. Does it Pay to Raise Scrub Horses or Cattle? Profitable Live Stock on the Farm. Economical Pork Production. The Farmer's Horse. More and Better Horses on the Farm.

10. Getting Ground Ready for Corn. Corn-Breeding. Selecting Seed-corn. Methods of Planting Corn. Corn-Cultivation Problems. Deep or Shallow Cultivation of Corn.

11. Restoring Fertility. Shall We Buy Commercial Fertilizers? Robbing the Soil. Crop-Rotation. Soil-Culture. The Campbell System of Soil-Culture.

12. Orcharding. My Apple Orchard. Orchard Pests. How I Care for My Orchard. Small Fruits. How I Handle My Strawberry-Field. Profits in Small Fruits. The Farm Orchard. Grape Culture. Peach-Culture.

13. Sheep on the Farm. Good Sheep or Scrubs. Profit in Sheep. Sheep or Dogs.

14. Bees on the Farm. Bee-Culture.

15. The Best Grasses. My Experience with *Bromus Inermis*. Improving Pastures and Meadows. Best Forage Crops. Planting, Cultivating, and Harvesting Kafir. Suggestions on Raising and Handling Sorghum.

16. The Farmer's Garden.

17. Landlord and Tenant. Farm Buildings and Grounds.

Financial Matters (Membership).—It is not dignified for a farmers' institute to solicit aid. It is a business organization to help the farmers make more money. Therefore, it ought to be supported and on a respectable basis by the farmers themselves and such business men as wish to become members. The first thing that ought to be done is to solicit for members. Every county institute in Kansas ought to have from two hundred to five hundred members. The annual fee is usually but twenty-five cents, and hence one hundred members ought to be considered a minimum. I do not hesitate to recommend a small family membership fee. Every member should ask his neighbors to join. Certainly a farmer ought to take as much interest in his institute as if it had some "secrets" and a lot of "passwords." Work for members first. This department is required to report membership to the United States Department of Agriculture, and the Kansas institutes do not rank high in members now. Every farmer should be a member. Next year the annual report, which will be sent free to all members, will, I hope, be a very valuable publication. It will contain a brief synopsis of proceedings of all the winter meetings to be held at the College the first week in January.

County Aid.—Then when the requirements of the law have been met, the institute president and secretary should go before the county commissioners and arrange to have the regular expenses of the institute session, up to \$50, paid by the county. Do not ask for \$50, but get an order from the board to incur expenses up to that sum and then pay all bills in cash, and after the institute is over submit an itemized bill of expenses to the commissioners. Do not take any more from the county than you actually spent. Use your membership fee for your treasury surplus. Premiums for the boys' corn contest or for the girls' contests are always

recognized by the county commissioners as legitimate use of this fund. Some years you may use the whole amount allowed by law, other years less. Institute officers can help very much to dignify our institute work by being businesslike with the county commissioners who are almost invariably interested in this work and are honorable men, holding themselves responsible for all expenditures of public funds.

Interest the Young People.—The various contests for the boys and girls will identify them with the institute. Try to get some young people who have been working out certain experiments to give either an oral or a written report. Possibly some article in a farm or family paper may be found by these young people and read in discussion of a subject on the program. Bring the boys and girls to the institute and see that they attend the sessions and not hang about on the outside. Talk to them in advance about the institute and about the subjects on the program.

The Boys' Corn Contests.—This part of the farmers' institute can not be emphasized too much. The boys' corn contest this year is the biggest movement for the boys and for good farming Kansas has ever had. The only trouble is that about twenty counties right in the Kansas corn belt let this opportunity pass by last spring, and hence the counties and the boys have missed the impulse. Now, this fall the biggest thing about the institutes where these contests are on must be the contest. The boys' corn must be given the best place, and the whole forenoon of the first day should be devoted to examining the corn and judging it and listening to the oral or written reports from the boys. Don't frighten the boys by this part of the program. Just ask a few to stand and tell in a few words the things of interest about their work—kind of soil, method and date of planting, method and times of cultivating, and such other points as they may think worth telling. Each boy ought to weigh his corn and report the number of pounds gathered. Some counties offer premiums for highest yield as well as for best ten ears.

Girls' Contests.—As much attention should be given to the girls' work, judging and inspecting, etc., the morning of the first session, at the same time the work is going on with the corn. All exhibits should be in place by ten o'clock, thus allowing two hours for judging and inspecting, and to listening to reports. Their contests may include bread, cakes, pies, canned fruit and jellies, and sewing, embroidering, etc.

Continue the Contests.—Do not think for a moment of not continuing the contest for another year. This is but a beginning.

When a populous county with probably 1000 boys eligible to enter this contest only shows up with sixty or a hundred contestants, it is too soon to think about discontinuing the corn contests. For the next year we should plan to add several features to what is being attempted this year—vegetable gardening, tree-planting, etc. I want to publicly express my gratitude to the many county school superintendents who have aided or entirely managed these contests in their counties. Many others will coöperate with us next year who were not able to help this year.

Poisons for Prairie-dogs and Gophers.

Press Bulletin No. 153.

It is well known to most of the citizens of Kansas, that the Experiment Station at Manhattan has been engaged for several years in the manufacture and sale of poisons for the destruction of the prairie-dog and the gopher—two pests that yearly cause much loss to farmers in regions infested by them. For four years this work was carried on by means of appropriations by the State Legislature, but at the last session this aid was withdrawn, since which time the support of the enterprise has been assumed by the Station alone. However, the price of the poison has been set at a figure that renders the work practically self-supporting, the work having been placed in the hands of the Entomologist of the Station without extra remuneration.

The poison for prairie-dogs is made according to a patented formula of which the State right was purchased from the inventor, Mr. David W. Staples, of Craft, Okla., and the poison for gophers is an adaptation of the formula better suited for attracting the gopher. Both of these poisons have been used very generally throughout the State, and have given great satisfaction to all who have used them. By the use of the poison for prairie-dogs, that animal has become nearly extinct in districts where before it was very abundant and destructive. While similar results are scarcely to be expected in the case of the gopher, owing to its peculiar life and distribution, it has been greatly reduced in numbers in localities where formerly abundant, and diligent land owners have found it possible, by use of this poison, to keep their fields practically free from its inroads on crops.

The following extracts from the correspondence of our patrons show the estimates placed on the poisons as used by them:

J. V. A., Medicine Lodge: "The batch you sent me worked to perfection."

W. H. B., Alton: "I am surprised at the result attained with so little effort."

F. H. W., Ness City: "The prairie-dog poison is ahead of all and everything else that we have tried."

J. C. B., Ogallah: "We have about made a complete success of killing prairie-dogs."

J. C. S.,——: "The prairie-dog poison furnished by the Experiment Station beats all other preparations I have ever tried. It is a sure killer, if properly used."

W. L. N., Wilson: "Used two gallons this afternoon, and can now pick up the dogs by the header-box full."

C. S. M., Sun City: "We used the poison, and found it O. K. Thanks for your efforts in securing for the State of Kansas such a sure 'dead shot.'"

Mrs. A. R. Goodland: "Allow me to offer my very sincere congratulations. You have done a great thing for this Western Kansas."

Owing to advances in the wholesale price of strychnine, the most expensive ingredient in the formula, the price of the prairie-dog poison is now \$2.00 per half-gallon can, and the price of the gopher poison \$1.10 per quart can, these being the quantities of the respective poisons put up by us. Full directions for use are given on each can. Lots of one to three cans will be sent wrapped in paper; above that number, they will be boxed. Small lots will go more cheaply by express, but large lots should be ordered to come by freight. There is no charge for boxing, the goods being delivered to freight or express company in Manhattan at the prices stated. The best time to poison gophers is in October and November, when they are most active; but they may also be successfully poisoned in the spring or at any time when they are working. It is not usually necessary to go over the ground with poison more than once; but unless neighboring farmers coöperate, the work will have to be attended to about once in two years.

FOR MICE AND PRAIRIE-SQUIRRELS.—We have recently had considerable complaint of the destruction of young orchards by field-mice. Experiments in the use of this poison to kill the mice have been very successful. We use the gopher poison with wheat as a bait. The poisoned wheat is eaten readily, and two or three applications will easily destroy all of the pests in an orchard. For prairie-squirrels the poison is used in the same manner, the wheat being placed near the openings of their burrows.

FOR RABBITS.—Corn poisoned as directed for pocket-gophers has been used successfully for these orchard pests. Kafir-corn is also a good bait, but perhaps the most successful method of all is to use prunes, pieces of apple, or sweet-potato as a bait. Dry powdered strychnine may be rubbed on the cut surface of the bait or our liquid poison poured over the pieces.

FOR RATS.—Rats about barns or corn-cribs are hard to poison because they have such an abundance of food at hand; yet they will often leave unpoisoned grain to eat that which has been poisoned with our poison. While we do not claim that it will entirely exterminate rats about farm premises, we are sure that the pest

can be greatly reduced in numbers by its use. As in the operations with the poison or any other form of strychnine, against all rodents living in burrows, the great majority of the victims die in the burrows and are never seen. For this reason it is not a desirable means of destroying mice in occupied dwellings. In all cases of its use, great care is necessary to avoid placing the poison or baited food where it might be found by domestic animals or persons ignorant of its deadly character.

Orders for poison should be accompanied by payment, and should state for what purpose the poison is desired. Make money orders or drafts payable to Miss Lorena E. Clemons, who is Secretary of the College. Method of shipment preferred should also be stated. The poison cannot be sent by mail, and we do not ship it out side of Kansas.

E. A. POPENOE, *Field Agent.*

Institute Dates.

Institute Secretary Miller is perfecting the details of the State farmers' institute, to be held in Manhattan December 27 to January 5. The two subjects to be before the institute will be "stock and stock judging" and "corn and corn judging." About 1500 people are expected during the week, and at least 900 men will enroll for the full nine-day institute work.

Four hundred boys are expected to enter the boys' corn judging contest, in which \$275 in cash prizes is offered. This will be the culmination of the county contests in which 5000 boys have entered.

The institute work will occupy the morning hours; the association meeting contests and shows in the afternoon. And leading stockmen, grain experts and good-roads specialists will give addresses in the evenings.

J. W. Robison will have a car-load of his finest Percherons on exhibition. Burgess & Sons will have a car-load of Belgians, and car-load lots of Oldenburg horses, Shorthorn and Aberdeen-Angus cattle will be exhibited.

The special meetings are:

December 31.—Boys' corn-judging contest.

January 1.—State Corn Breeders' Association.

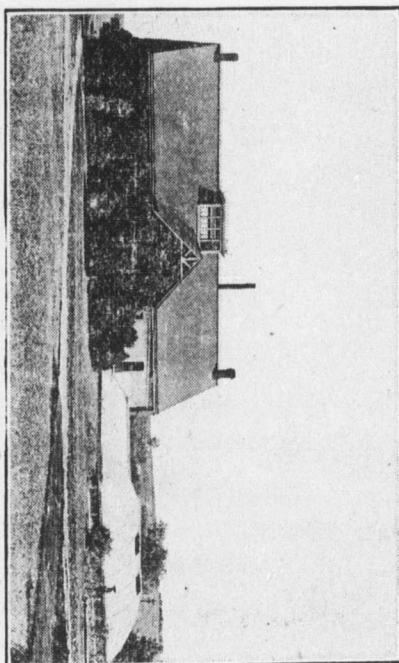
January 2.—Kansas Good Roads Association.

January 2.—Kansas Draft Horse Breeders' Association.

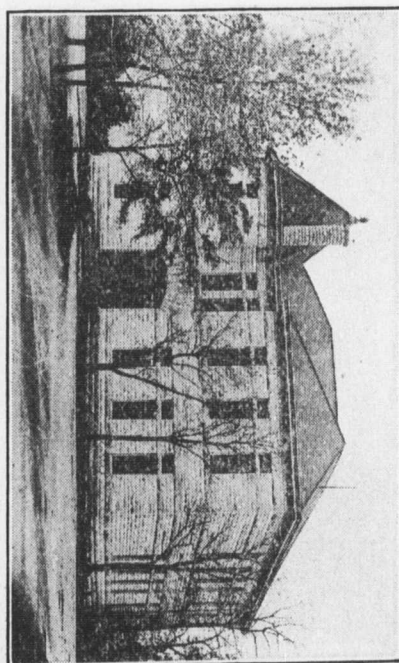
January 3.—Kansas State Dairy Association.

January 4.—Kansas Aberdeen-Angus Breeders' Association.

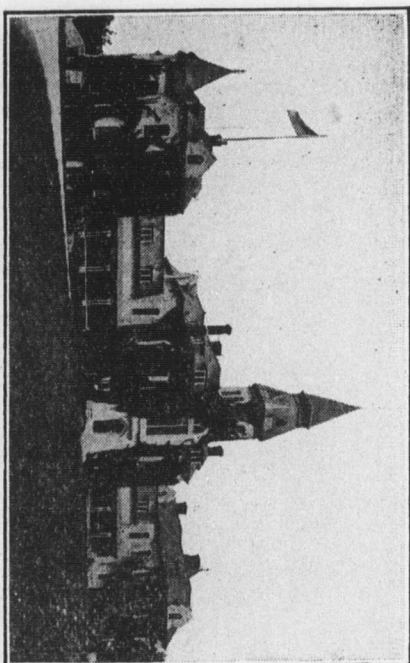
January 5.—Hereford cattle sale.



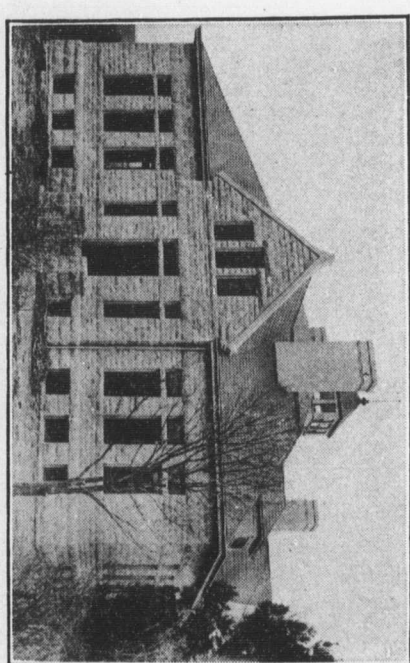
Horticultural Hall.



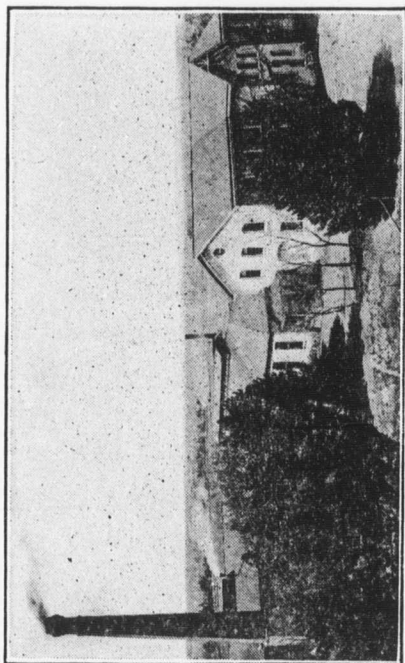
Kedzie (Domestic Science) Hall.



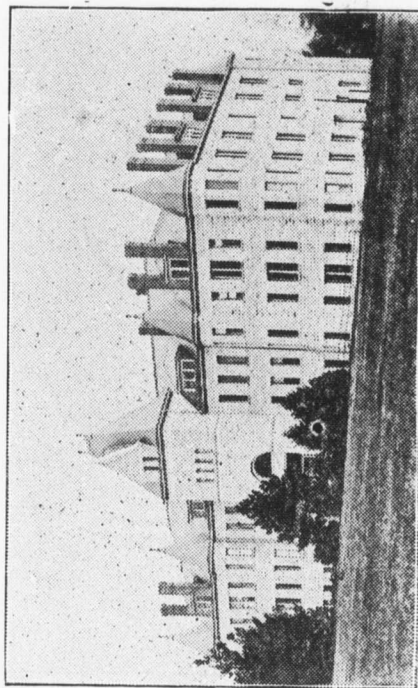
Anderson (Main) Hall.



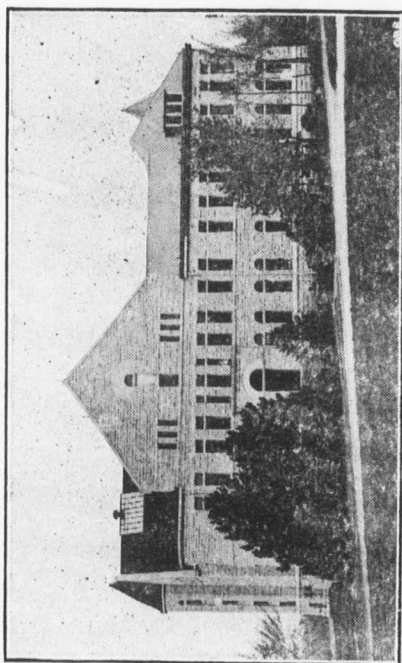
Dairy Hall.



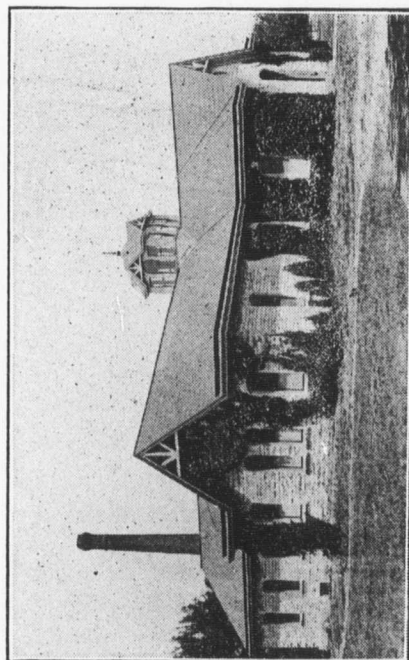
Mechanics' Hall.



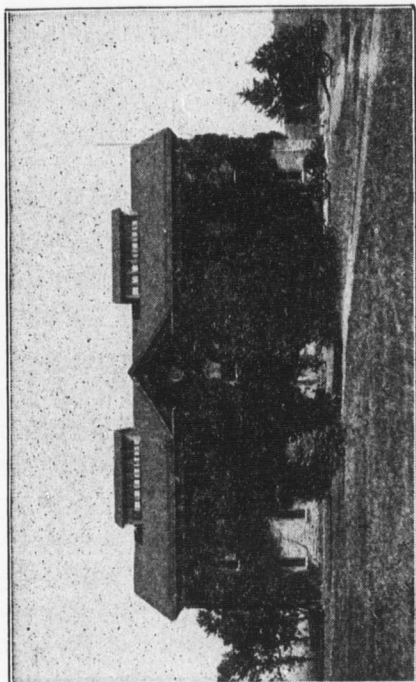
Physical Science Hall.



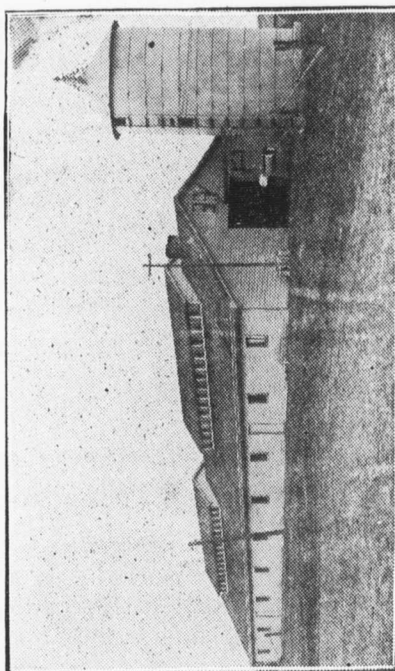
Fairchild (Library) Hall.



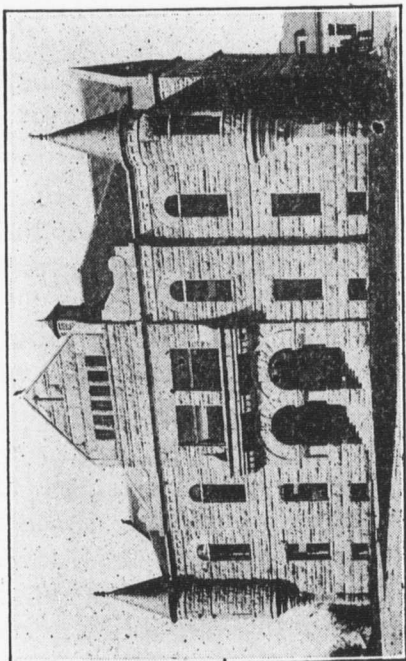
Women's Gymnasium.



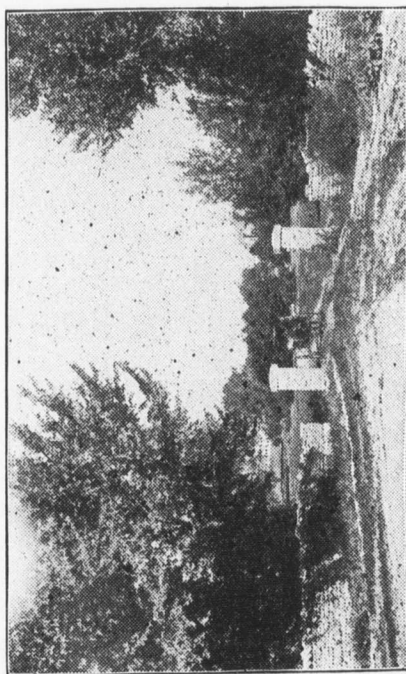
Armory.



Dairy Barn.



Agricultural Hall.



Entrance to Grounds.

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Local Notes.

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Professor Kinzer and Assistant Willson, accompanied by a class of about twenty students, went to Kansas City Monday to attend the American Royal Stock Show.

The professors who dwell along the west side of the City Park want it understood that their settlement is called Park Row—not Faculty Row. They insist that there is no “row” about their neighborhood.

The Manhattan carnival held this week on the main street enjoyed fair weather and large crowds. We do not know how much it paid toward the court-house clock, but hope that the required \$1200 mark was reached.

The six Filippino students who worked faithfully and persistently all summer under Foreman House, of the carpenter-shops, have completed some very fine inlaid woodwork. They are very proud of it and ready to exhibit it.

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Contractor Stingley, of the new Horticultural Hall, is laying the finishing floors and pointing the outside of the stone-work. The material for the stairs and inside finish is on the ground, but the carpenter-work is making slow progress.

Vernon M. Shoesmith, who has been assistant professor in the Department of Agronomy for the past four years, has resigned to accept a position as agronomist to the Maryland Experiment Station, at College Park, Md. He will leave here about December 1. His new position means more responsibility and a larger salary.

Superintendent Rickman of the Printing Department is expecting to make several changes in the near future. The composing-room will be moved up-stairs and placed in the present class room of Professor McKeever. Assistant Rodell will occupy the office connected with the composing-room. The present composing-room will be used for a folding and mailing room. The old mailing room will be used for storage of stock, and the old folding room will be added to the press-room. New materials have been purchased. Elevators, speaking tubes and call bells will be installed where necessary and the plant will be made modern in every respect. Some day we shall have a linotype.

Contractor Henry Bennett has completed the additions to the power-house and we congratulate Engineer Lund on his cosey, new office and his large, new plumbing shop.

Miss Becker, superintendent of the Domestic Art Department, has lately received a very fine and large collection of specimens of American and Egyptian cotton goods representing the seventy-five different processes that cotton passes through from the cotton jenny to the power loom. The collection is a present by the Argo Spinning Mills located at Gloucester, New Jersey. Superintendent Becker intends to increase the collection by adding specimens of the different varieties of the cotton plant and samples of cotton-textiles.

The Agricultural College believes in printer's ink. Six different periodicals are being published by its "family." These are, the weekly *INDUSTRIALIST*, the weekly *Students' Herald*, the monthly *Jayhawker*, the monthly *Agricultural Review*, the two-monthly Station Bulletins and the occasional Press Bulletins. All of these except the *Review* are printed in the College printing-office and, we may well say, are typographical beauties. There is not another institution west of Chicago that can exhibit such proofs of its appreciation of the carbon compound of Guttenberg, Franklin, Hoe, and Campbell.

The Experiment Station has lately mailed Bulletins Nos. 137, 138 and 139 to our 30,000 patrons. The first was issued by the Dairy Husbandry Department and is entitled "Variations in the Test of Separator Cream." The second one is by the same department and contains a report on a series of microscopic investigations on the "Effect of Bacteria in Wash Water of Butter." The third one was prepared by the Agronomy Department and contains instructions for "The Study of Corn." It was prepared chiefly for use by the young men in the boys' corn contests, which are being conducted under the direction of the Farmers' Institute Department of this College. Bulletins Nos. 138 and 139 are illustrated. These pamphlets will be sent free of charges to any parties interested in their contents.

J. T. Lovewell, secretary of the Kansas Academy of Science, has issued the annual announcement of the Academy, containing the information that the next annual meeting will be held in Topeka, beginning Thursday, November 29, and continuing through Friday and Saturday. A local committee has been selected to have charge of the arrangements for the banquet, which the local members will serve to the organization on Friday evening. The meetings of the academy will be held partly in the State-house and partly in the assembly room of the manual training high school. The railroads have agreed to sell reduced-rate tickets for the session. The Academy now has a total membership of 204 and has been in existence since 1868, and since 1873 has been a coördinate department of the State Board of Agriculture. Its nineteen volumes of proceedings include the results of the scientific investigations of the members.

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Miss Becker, superintendent of the Domestic Art Department, has lately received a very fine and large collection of specimens of American and Egyptian cotton goods representing the seventy-five different processes that cotton passes through from the cotton jenny to the power loom. The collection is a present by the Argo Spinning Mills located at Gloucester, New Jersey. Superintendent Becker intends to increase the collection by adding specimens of the different varieties of the cotton plant and samples of cotton-textiles.

The Agricultural College believes in printer's ink. Six different periodicals are being published by its "family." These are, the weekly *INDUSTRIALIST*, the weekly *Students' Herald*, the monthly *Jayhawker*, the monthly *Agricultural Review*, the two-monthly *Station Bulletins* and the occasional *Press Bulletins*. All of these except the *Review* are printed in the College printing-office and, we may well say, are typographical beauties. There is not another institution west of Chicago that can exhibit such proofs of its appreciation of the carbon compound of Guttenberg, Franklin, Hoe, and Campbell.

The Experiment Station has lately mailed *Bulletins* Nos. 137, 138 and 139 to our 30,000 patrons. The first was issued by the Dairy Husbandry Department and is entitled "Variations in the Test of Separator Cream." The second one is by the same department and contains a report on a series of microscopic investigations on the "Effect of Bacteria in Wash Water of Butter." The third one was prepared by the Agronomy Department and contains instructions for "The Study of Corn." It was prepared chiefly for use by the young men in the boys' corn contests, which are being conducted under the direction of the Farmers' Institute Department of this College. *Bulletins* Nos. 138 and 139 are illustrated. These pamphlets will be sent free of charges to any parties interested in their contents.

J. T. Lovewell, secretary of the Kansas Academy of Science, has issued the annual announcement of the Academy, containing the information that the next annual meeting will be held in Topeka, beginning Thursday, November 29, and continuing through Friday and Saturday. A local committee has been selected to have charge of the arrangements for the banquet, which the local members will serve to the organization on Friday evening. The meetings of the academy will be held partly in the State-house and partly in the assembly room of the manual training high school. The railroads have agreed to sell reduced-rate tickets for the session. The Academy now has a total membership of 204 and has been in existence since 1868, and since 1873 has been a coördinate department of the State Board of Agriculture. Its nineteen volumes of proceedings include the results of the scientific investigations of the members.

The Dairy Department has recently purchased a dozen milch cows, to be certain of a sufficient milk supply for the fall and winter classes in dairy work.

Alumni and Former Students.

W. C. Howard, '77, asks to have the INDUSTRIALIST sent to Hollister, Cal., instead of Newcastle.

A. E. Oman, '00, who has been in southern Idaho since August 15, will start a forest nursery at Pocatello this month, where he hopes to receive the the INDUSTRIALIST.

R. A. Oakley, '03, assistant agriculturist of the Bureau of Plant Industry, visited the College and friends this week on his way to spend a two weeks' vacation with the home folks near Marysville.

Helena Pincomb, '01, attended the Pincomb-Jones wedding and paid the College a short visit. She is on the way to Tampico, Mex., where she will spend the winter with her sister, Mary (Pincomb) Moats, '96.

Dr. R. T. Nichols, '99, stopped off between trains Monday to visit his sister Gladys, who entered the freshman class this term. Dr. Nichols was on his way to his home in Liberal, returning from a trip to Alaska, where he was called by the serious illness of his father. He left Fairbanks, Alaska, on his return, September 9, the trip thus requiring a full month. Dr. Nichols, Sr., returned from Alaska with R. T.

Thomas Bassler, '85, in a letter says: "I have pulled off my coat and am going to do the best that I can to save this state from the curse of the whisky traffic." He is the proprietor of Glen Ivy Farm, near Ponca, Okla., but for the next few weeks will be at the county seat, Stillwater. Two of Mr. Bassler's children, a son and a daughter, entered the freshman class of the Oklahoma Agricultural College this fall.

In the presence of immediate relatives and intimate friends, the marriage of Marian Elizabeth Jones and Charles Edwin Pincomb was solemnized at the home of the bride, 1231 Bluemont avenue, Wednesday, October 10. The simple Episcopal service was used, Rev. J. H. Lee officiating. The bride is the eldest daughter of Mr. and Mrs. John Jones and is well known here, having spent most of her life in Manhattan and vicinity. She graduated from K. S. A. C. with the class of '96, and after teaching for four years in the Domestic Art Department, finished a course in Teachers' College, Columbia University, New York city, and accepted a position as instructor in domestic science and art in State College for women, Tallahassee, Florida, which place she resigned this fall. Mr. Pincomb is also a graduate of the class of '96 and is now a successful farmer and stockman, highly respected in his community. Mr. and Mrs. Pincomb will live on their farm near Kansas City and the congratulations and best wishes of hosts of friends go with them to their new home.—*Nationalist.*

THE
INDUSTRIALIST

Historical Society

Vol. 33

No. 4

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



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# THE INDUSTRIALIST.

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VOL. 33.

MANHATTAN, KAN., OCT. 27, 1906.

No. 4

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## *It Is Practical.*

We used to share in a general prejudice against "book farming." We had a notion that the college-trained farmer was of mighty little account, and that the way to get to be a successful farmer was just to get out and farm and win out by main strength and mighty hard work.

Well, that idea showed just how short-sighted and ignorant we were. We have come to believe in book farming. Of course, a man can't be made a successful farmer just by reading books and theorizing. He has to get up and hustle and rise with the lark and work pretty hard, but if he knows how to use his head as well as his muscles he can make more money and with a heap less work. Our Agricultural College is showing by actual demonstration that it is possible to make a tract of ground produce twice as much of a given crop with proper cultivation as it would produce with just the ordinary cultivation, and when it shows that it is doing a vast benefit to the farmers and to everybody else. We blow a good deal about the marvelous productions of this bully country, and the productions are enormous, but with the right sort of cultivation the number of acres now in cultivation in this country could be made to produce not only twice but three times as much as they produce now. Kansas wheat fields will produce even now nearly a hundred million bushels in a single year. The Agricultural College has demonstrated that it would only be a little more trouble to make the same ground that produces ninety million bushels produce two hundred million bushels. The ground that produces two hundred million bushels of Kansas corn could be made to produce four hundred million bushels in a single season. The Agricultural College has demonstrated that too. When we used to try to make sport of the book farmer we were simply talking through our hat, and we now and here frankly acknowledge the corn. We believe in book farmers. We believe in educated farmers. We believe in agricultural colleges and manual training schools. They are good things and ought to be pushed along. Every boy in Kansas who expects to make a



living as a farmer ought to take a course at the Agricultural College. It is no use for him to say that he can't afford it. No boy in Kansas is so poor that he can't afford to take a course at the Agricultural College if he has the right sort of stuff in him, and if he hasn't the right sort of stuff in him he will never make a success as a farmer.—*T. A. McNeal, in Farmers' Mail and Breeze.*

### **Oiled Roads.**

"Road making with oil I believe to be a commercial success, which will in time be generally adopted in improving the sandy roads of the State."

This is the opinion of Prof. Albert Dickens, of the Kansas State Agricultural College, the man who for the past year has been assigned to the work of expending the \$2500 appropriated by the last legislature for the purpose of experimenting in oil road making.

"The cost of oiling a sandy road," said Professor Dickens to-day, "will be about \$1200 a mile. Some roads will cost more than others. This is only about a third the cost of macadam roads, and where stone is not plentiful is much less than a third. We have constructed oil roadways in four different parts of the State. Our most extensive experiment was near Garden City, where we oiled a little over a mile of road. The sandy soil absorbed vast quantities of oil. Four car-loads were put into the roadway with a sprinkling cart. At Hutchinson we made nearly a mile of oil road, and we built short stretches at Manhattan and Maple Hill.

"Whether the oil in the roadways will have to be renewed remains to be seen. Of course there are certain portions of the oil which are volatile, and will pass off into the air. But we use for this oiling only the heavy residuum oil, left after the kerosene and gasoline have been extracted. This oil is thick and heavy, and works better than thin oil.

"Up at Manhattan, the people who own fast horses were so well pleased with the oil road that they have oiled the race track, and claim that it makes their track one of the best in the State.

"Out at Garden City, where the sand is probably as heavy as any place in the State, the oil experiments are watched with the greatest interest. The whole of western Kansas would be benefited greatly if the oil road comes into general use. There is a rich farming country tributary to Garden City, which is at times almost cut off from the town because of the heavy sand in the roads. The roads are so bad that a horse can not haul more than ten bushels of wheat at a load. The farmers living near Gar-

den City and the merchants in the town are talking of oiling the main roads leading to this tributary country, so that the farmers can come into town regardless of the sand.

"We have found that narrow-tired wagons cut up the road badly after it has been oiled, while the wide-tired wagons tend to make it more solid and firm. This is of course true to a great extent of the effect of the tires on ordinary roads."

It is likely that the next legislature will be asked to continue the appropriation for oil-road experiments, in order that tests may be made in other portions of the State, and establish fully the practicability of this method of good-roads making.—*Topeka Journal*.

### ***Agricultural College Scholarships.***

The following correspondence explains itself:

*John A. Spoor, President International Live Stock Exposition, Chicago.*

DEAR SIR: We all recognize and appreciate the work done by our agricultural colleges in advancing the cause of agricultural education in this country through the character and extent of their exhibits of live stock and field products at the International show.

With a view of stimulating their efforts and to give an increased evidence to our farmers of the great value of their work, I hereby offer to you the sum of five thousand dollars to be distributed annually at the International Exposition in twenty agricultural scholarships to be competed for by the State Agricultural Colleges at your exposition.

The competition for the scholarships is to be based upon animal and grain exhibits from the several colleges and such other forms of agricultural student competition as may be recognized or established by the International Live Stock Exposition. The details governing the competition are to be determined by the management of the said exposition, and the scholarships are to be known as the J. Ogden Armour Scholarships.

It is my desire that the recipients of the scholarships should be limited to boys whose parents are unable to give them the advantage of an agricultural education. Yours truly,

J. OGDEN ARMOUR.

DEAR MR. ARMOUR: On behalf of the directors of the International Live Stock Exposition Association, as well as for myself, I beg to acknowledge your favor and to accept with many thanks your most generous offer of five thousand dollars to be distributed annually at the International Live Stock Exposition in twenty Ag-



ricultural college scholarships to be named the J. Ogden Armour scholarships.

This endorsement by you of agricultural education is most timely and worthy, and the safeguarding of the scholarships so that they may only be given to boys who might not otherwise have the advantage of a college education is a wise provision. The International Live Stock Exposition, founded for the advancement of agriculture and the improvement of live stock, is honored in being made the medium through which your liberal endowment is to be distributed, and I beg to assure you that every assistance in the power of this association will be rendered to carry out the provision of your scholarship awards, so that the greatest possible good may be derived therefrom.

Please accept our renewed thanks with full appreciation of the generous spirit and motive that has prompted the gift.

Very truly yours, J. A. SPOOR, *President.*

### ***Farmers' Institute Schedule, Fall Circuits, 1906.***

#### **SANTA FE SERIES.**

- Oct. 15, 16. Mulvane—A. M. TenEyck, Mrs. Calvin, J. H. Miller.
- " 16, 17. Hackney—A. M. TenEyck, Mrs. Calvin, J. H. Miller.
- " 17. Burden—A. M. TenEyck, Mrs. Calvin.
- " 18, 19. Anthony—A. M. TenEyck, Mrs. Calvin.
- " 19, 20. Kingman—A. M. TenEyck, Mrs. Calvin, J. H. Miller.
- " 22, 23. Hutchinson—A. M. TenEyck, Mrs. Calvin, E. A. Popenoe.
- " 23, 24. Newton—A. M. TenEyck, Mrs. Calvin, E. A. Popenoe.
- " 24, 25. Peabody—A. M. TenEyck, Mrs. Calvin, E. A. Popenoe.
- " 25, 26. Emporia—A. M. TenEyck, Mrs. Calvin, E. A. Popenoe.
- " 26, 27. Council Grove—A. M. TenEyck, Mrs. Calvin, E. A. Popenoe.

#### **SANTA FE-FRISCO SERIES.**

- Oct. 22, 23. Howard—J. H. Miller, Arnold Martin, Oscar Erf.
- " 23, 24. Eureka—J. H. Miller, Arnold Martin, Oscar Erf.
- " 24. Fredonia—J. H. Miller, Arnold Martin.
- " 25, 26. Columbus—J. H. Miller, Arnold Martin, Oscar Erf.
- " 26, 27. Altamont—J. H. Miller, Arnold Martin, Oscar Erf.
- " 29. Erie—J. H. Miller, Arnold Martin, Oscar Erf.
- " 30. Girard—J. H. Miller, Arnold Martin.
- " 30. Moran—Oscar Erf.
- " 31. } Fort Scott—J. H. Miller, Arnold Martin, Oscar Erf.
- Nov. 1. }
- " 1, 2. Paola—J. H. Miller, Arnold Martin, Oscar Erf.

#### **ROCK ISLAND SERIES (NO. 1).**

- Oct. 29, 30. Norton—A. M. TenEyck, Mrs. Calvin, R. J. Kinzer.
- " 30, 31. Phillipsburg—A. M. TenEyck, Mrs. Calvin, R. J. Kinzer.
- " 31. }
- Nov. 1. } Smith Center—A. M. TenEyck, Mrs. Calvin, R. J. Kinzer.
- " 1, 2. Mankato—A. M. TenEyck, Mrs. Calvin, R. J. Kinzer.
- " 2, 3. Belleville—A. M. TenEyck, Mrs. Calvin, R. J. Kinzer.

## SOUTHWESTERN KANSAS SERIES.

- Nov. 5. Syracuse—J. H. Miller, A. H. Leidigh.  
 " 6. Johnson—J. H. Miller, A. H. Leidigh.  
 " 7. Richfield—J. H. Miller, A. H. Leidigh.  
 " 8. Hugoton—J. H. Miller, A. H. Leidigh.  
 " 9. Ulysses—J. H. Miller, A. H. Leidigh.  
 " 10. Santa Fe—J. H. Miller, A. H. Leidigh.

## LINCOLN BRANCH (U. P.) SERIES (NO. 1).

- Nov. 7. Lucas—Albert Dickens, O. H. Elling.  
 " 8. Waldo—Albert Dickens, O. H. Elling.  
 " 9. Natoma—Albert Dickens, O. H. Elling.  
 " 10. Plainville—Albert Dickens, O. H. Elling.  
 " 7, 8. Lincoln—A. M. Ten Eyck, Mrs. Calvin, C. W. Burkett.  
 " 8, 9. Abilene—A. M. Ten Eyck, Mrs. Calvin, C. W. Burkett.

## ROCK ISLAND SERIES (NO. 2).

- Nov. 7, 8. Clyde—V. M. Shoesmith, G. C. Wheeler.  
 " 8, 9. Clay Center—V. M. Shoesmith, Miss Dow, G. C. Wheeler.

## CENTRAL BRANCH—SANTA FE SERIES.

- " 12, 13. Washington—A. M. Ten Eyck, Mrs. Calvin, Albert Dickens.  
 " 13, 14. Blue Rapids—A. M. Ten Eyck, Mrs. Calvin, Albert Dickens.  
 " 14, 15. Seneca—A. M. Ten Eyck, Mrs. Calvin, Albert Dickens.  
 " 15, 16. Hiawatha—A. M. Ten Eyck, Mrs. Calvin.  
 " 16, 17. Troy—A. M. Ten Eyck, Mrs. Calvin, Albert Dickens.  
 " 19, 20. Holton—A. M. Ten Eyck, Mrs. Calvin, Oscar Erf.  
 " 20, 21. Oskaloosa—A. M. Ten Eyck, Mrs. Calvin, Oscar Erf.  
 " 21, 22. Tonganoxie—A. M. Ten Eyck, Mrs. Calvin, Oscar Erf.  
 " 22, 23. Ottawa—A. M. Ten Eyck, Mrs. Calvin, Oscar Erf.  
 " 23, 24. Garnett—A. M. Ten Eyck, Mrs. Calvin, Oscar Erf.

## UNION PACIFIC SERIES (NO. 2).

- Nov. 19, 20. Hill City—Albert Dickens, O. H. Elling.  
 " 20, 21. Hoxie—Albert Dickens, O. H. Elling.  
 " 21. Colby—Albert Dickens, C. W. Burkett.  
 " 22. Grainfield—C. W. Burkett, O. H. Elling.  
 " 22, 23. Wakeeney—Albert Dickens, C. W. Burkett, O. H. Elling.  
 " 23, 24. Hays—Albert Dickens, C. W. Burkett, O. H. Elling.  
 " 26, 27. Russell—Albert Dickens, C. W. Burkett, O. H. Elling.  
 " 27, 28. Ellsworth—Albert Dickens, C. W. Burkett, O. H. Elling.

## SOUTHERN SANTA FE SERIES.

- Nov. 19. Great Bend—J. H. Miller, E. A. Popenoe.  
 " 20. Sterling—J. H. Miller, E. A. Popenoe.  
 " 21. Darlow—J. H. Miller, E. A. Popenoe.  
 " 22. Wellington—J. H. Miller, E. A. Popenoe.  
 " 23, 24. Arkansas City—J. H. Miller, E. A. Popenoe.  
 " 26, 27. Iola—J. H. Miller, E. B. McCormick, E. A. Popenoe.  
 " 27, 28. Burlington—J. H. Miller, E. B. McCormick, E. A. Popenoe.

## UNION PACIFIC SERIES (No. 3).

- Nov. 26, 27. Beloit—A. M. Ten Eyck, Oscar Erf, J. T. Willard.  
 " 27, 28. Minneapolis—A. M. Ten Eyck, Oscar Erf, J. T. Willard.



# Program for Fall Term, 1906, Showing

| INSTRUCTOR.                    | First Hour.                                     | Second Hour.                                                                | Third Hour.                      | Fourth Hour.                    |
|--------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------|---------------------------------|
| Walters.....                   | Heat & Plumb. <sup>1</sup> ..3                  | Sp. Drawing.... 3                                                           |                                  | Art Lect...Sat. 10              |
| Weeks.....                     | D.S.S.C. Draw..16                               | Color & Design <sup>1</sup> .....25<br>Home Decoration <sup>1</sup> .....25 |                                  | D.S.S.C. Draw...30              |
| Brandt.....                    |                                                 |                                                                             |                                  |                                 |
| Willard <sup>2</sup> .....     |                                                 | Elec. Chem..... 5                                                           | Animal Nutr....20                | Human Nutr....23                |
| Wood.....                      | Quantitative Analysis                           | Monday A.M. 4                                                               | Chem. III, V....22               |                                 |
| King.....                      | Chemistry I....61                               | Chemistry I....59                                                           | Chemistry I....57                |                                 |
| Crowley.....                   |                                                 | Ent. Grad..... 4                                                            |                                  | Geology.....20                  |
| Popenoe <sup>2</sup> .....     |                                                 |                                                                             |                                  |                                 |
| Dean <sup>2</sup> .....        | Adv. Ent..... 5                                 | Adv. Ent..... 6                                                             | Entomology....28                 |                                 |
| Scheffer.....                  | Zoology.....22                                  | Phys. Geog. I...32                                                          | Phys. Geog. I...51               |                                 |
| Remick.....                    | Diff. Calculus...29                             | Diff. Calculus...33                                                         | Trigonometry...25                | Algebra III....30               |
| Seaton.....                    | Trigonometry...33                               | Algebra IV....39                                                            | Algebra IV....41                 | Trigonometry...14               |
| Zeininger.....                 | Geometry II....55                               | Algebra III....30                                                           | Algebra I....34                  | Geometry II....54               |
| Andrews.....                   | Algebra III....33                               | Geometry I....44                                                            | Geometry I....31                 | Algebra I....33                 |
| McCotter.....                  | Geometry I....44                                | Algebra I....34                                                             | Algebra I....23                  | Geometry I....43                |
| Magee.....                     | Algebra III....23                               | Algebra I....30                                                             | Algebra III....24                | Algebra II....32                |
| Eyer.....                      |                                                 |                                                                             | El. Physics....45                | D. C. Mach....19                |
| Hamilton.....                  |                                                 |                                                                             | Physics III....25                | El. Physics....20-25            |
| Halstead.....                  | Physics I....22                                 | Physics I....28                                                             | Physics I Laboratory             |                                 |
| Roberts <sup>2</sup> .....     | Botany II....51                                 | Botany II....43                                                             |                                  | Botany II....54                 |
| Freeman <sup>2</sup> .....     |                                                 | Botany I....43                                                              | Botany II....41                  | Botany I....52                  |
| Bergman.....                   | Botany I....62                                  |                                                                             | Botany I....42                   | Adv. Gram....37                 |
| McKeever.....                  | Adv. Grammar...35                               | Hist. Educ.... 6                                                            | Logic.....13                     | S. Lect. III...S. 34            |
| McCormick.....                 | Graphic. St. <sup>1</sup> ...21                 |                                                                             |                                  | S. Lect. V...Th. 13             |
| Potter.....                    | Steam Boilers <sup>1</sup> ..14                 |                                                                             | Mechanics...26-33                | Woodwork II...21                |
| House.....                     | Woodwork II...17                                | Woodwork I...44                                                             | Woodwork I...44                  |                                 |
| Wabnitz.....                   |                                                 |                                                                             |                                  | S. Lect. I....38                |
| Ridenour.....                  |                                                 |                                                                             |                                  |                                 |
| Milliard.....                  |                                                 |                                                                             |                                  |                                 |
| Eastman <sup>2</sup> .....     | Horticulture....18                              | Pomology.....14                                                             |                                  | Dendrology.... 4                |
| Brink.....                     | Rhetoric II....23                               | Classics.....24                                                             | Rhetoric II....20                | English Lit. I...34             |
| Ward.....                      | Classics.....33                                 | Adv. Comp....26                                                             | Adv. Comp....19                  | English Lit....15               |
| Rice.....                      | Rhetoric I....29                                | Classics.....23                                                             | Classics.....25                  | Rhetoric I....31                |
| Hopps.....                     | Composition...39                                | Composition...36                                                            | Adv. Grammar...31                | Adv. Grammar...34               |
| Washburn.....                  | Adv. Grammar...34                               | Adv. Grammar...32                                                           | Readings.....27                  | Readings.....32                 |
| Scudder.....                   | Agriculture....46                               | Agriculture....30                                                           |                                  |                                 |
| Calvin.....                    | Household M...42                                | Elective.....22                                                             |                                  |                                 |
| Dow.....                       |                                                 |                                                                             | Elementary Cooking.....25        | 10-13                           |
| Willis.....                    | Short Course Cooking                            |                                                                             |                                  |                                 |
| Russell.....                   |                                                 | Short Course Cooking                                                        |                                  |                                 |
| Price.....                     | European Hist...28                              | Am. History...40                                                            | Am. History...34                 | European Hist...28              |
| Kammeyer.....                  | Economics.....13                                | Pub. Spg. I...36-34                                                         | Economics.....23                 | Pub. Spg. I'...28               |
| Erf <sup>2</sup> .....         |                                                 | Dairying.....30-29                                                          |                                  |                                 |
| Shaffer.....                   |                                                 |                                                                             |                                  |                                 |
| Cortelyou.....                 | German III....18                                | German IV...20-20                                                           | German I....25                   | German I....20                  |
| Meinzer.....                   | German I....39                                  | German I....38                                                              | Adv. Grammar...28                | Classics.....39                 |
| Valley.....                    | Singing.....23                                  | Singing.....12                                                              | Singing.....11                   | Singing.....20                  |
| Brown.....                     | Violin..... 9                                   | Mandolin.....15                                                             | Guitar.....14                    | Violin..... 6                   |
| Augsburger.....                | Piano.....15                                    | Piano.....14                                                                | Piano.....11                     | Piano.....18                    |
| Latimer.....                   | Piano.....15                                    | Piano.....13                                                                | Piano.....11                     | Piano.....17                    |
| Schoenleber <sup>2</sup> ..... |                                                 |                                                                             | Materia Med. I <sup>1</sup> ..17 |                                 |
| Barnes <sup>2</sup> .....      | { Med. I, T & T & S 8 }<br>{ Surg. I, W & F 8 } | Medicine IV... 7                                                            |                                  |                                 |
| Goss.....                      |                                                 | Vet. Science...23                                                           |                                  | Bacteriology <sup>1</sup> ...14 |
| Rogers.....                    | Meat Insp..... 7                                | Anatomy III... 6                                                            | Anatomy I <sup>1</sup> ....13    | Surg. Anat..... 8               |
| Kinzer <sup>2</sup> .....      | Stock Judging                                   |                                                                             |                                  | Mondays 15                      |
| Rickman.....                   |                                                 |                                                                             |                                  |                                 |
| Rodell.....                    | Printing..... 1                                 | Printing..... 2                                                             | Printing..... 1                  | Printing..... 5                 |
| McFarland.....                 | Bookkeeping...70                                | Bookkeeping...46                                                            | Bookkeeping...46                 | Bookkeeping...52                |
| Holroyd.....                   | Algebra I....42                                 | Algebra II....34                                                            | Algebra II....35                 | Algebra I....38                 |
| Short.....                     | Anc. History...57                               | Anc. History...52                                                           | Med. History...36                | Med. History...32               |
| Thompson.....                  |                                                 |                                                                             |                                  |                                 |
| Furley.....                    |                                                 |                                                                             |                                  |                                 |
| Reynolds.....                  | Phys. Geog. I...47                              | Phys. Geog. II...52                                                         | Phys. Geog. I...40               | Phys. Geog. I...51              |
| Barbour.....                   |                                                 |                                                                             |                                  | Phys. Training...13             |
| Becker.....                    |                                                 |                                                                             |                                  |                                 |
| Cowles.....                    | Short Course Sewing                             |                                                                             | Sewing I....33                   |                                 |
| Stump.....                     | Sewing III....18                                |                                                                             | Sewing I and II...23             |                                 |
| Lund.....                      | Traction Engine                                 |                                                                             |                                  | 13-13                           |
| Sperry.....                    |                                                 |                                                                             |                                  | 19                              |
| Waters.....                    |                                                 |                                                                             |                                  |                                 |
| Haslam.....                    |                                                 |                                                                             | Anc. History...42                | Anc. History...43               |

<sup>1</sup>Every other day. <sup>2</sup>Experiment Station work.

# Structors, Subjects, and Number in Class.

| Fifth Hour.                   |  | Sixth Hour.                   |  | Seventh Hour.               |  | Eighth Hour.                  |  |
|-------------------------------|--|-------------------------------|--|-----------------------------|--|-------------------------------|--|
| Linear Perspective.....       |  | Wed. & Fri. 18                |  |                             |  |                               |  |
| Architectural Drawing.....    |  | Tu. & Thu. 14                 |  |                             |  |                               |  |
| Modeling.....                 |  | 2                             |  |                             |  |                               |  |
| Freehand Drawing.....         |  | Tu. 49, Wed. 55, Sat. 38      |  |                             |  |                               |  |
| Object Drawing.....           |  | Thu. 43, Fri. 32              |  |                             |  |                               |  |
| Elementary Projection.....    |  | Tu. 20, Thu. 23               |  |                             |  |                               |  |
| Advanced Projection.....      |  | Wed. 33, Fri. 5               |  |                             |  |                               |  |
| Geometrical Drawing.....      |  | Fri. 30, Sat. 31              |  |                             |  |                               |  |
| Chemistry I Laboratory.....   |  | Tu. & Wed.                    |  |                             |  |                               |  |
| Chemistry I Laboratory.....   |  | T 38, W 35, T 47, F 48        |  |                             |  |                               |  |
| Advanced Entomology.....      |  | Tu. & Thu. 5                  |  |                             |  |                               |  |
| Entomology Laboratory.....    |  | Wed. 13, Fri. 14              |  |                             |  |                               |  |
| Zoology Laboratory.....       |  | Tu. & Thu. 12, Wed. & Fri. 13 |  |                             |  |                               |  |
| Surveying.....                |  | 70                            |  | Special Surveying.....      |  | Monday 6                      |  |
|                               |  |                               |  | Anal. Geometry.....         |  | 11                            |  |
| D. C. Mach. Laboratory.....   |  | T & T 10, W & F 9             |  | Electro-Chemistry.....      |  | Saturday 19                   |  |
| Physics Laboratory.....       |  | Wed. & Fri. 25                |  |                             |  |                               |  |
|                               |  |                               |  |                             |  |                               |  |
| Mechanical Drawing IV.....    |  | T & T 9, W & F 4              |  |                             |  |                               |  |
| Mechanical Drawing V.....     |  | Thu. & Fri. 13                |  |                             |  |                               |  |
| Mechanical Drawing II.....    |  | T & T 16, W & F 13            |  | Engineering Laboratory..... |  | Mon. a. m. 7, p. m. 7         |  |
| Woodwork I.....               |  | Tu. & Thu. 44, Wed. & Fri. 7  |  | Woodwork I.....             |  | Monday p. m. 20               |  |
| Machine Shop.....             |  | T & T 18, W & F 14, S 14      |  | Machine Shop.....           |  | Tu. & Thu. 11, Wed. & Fri. 13 |  |
| Foundry.....                  |  | Tu. 5, Thu. 11, Fri. 6        |  | Foundry.....                |  | Friday 1                      |  |
| Blacksmithing I.....          |  | Wed. & Fri. 20                |  | Blacksmithing I.....        |  | Wed. & Fri. 20                |  |
| Blacksmithing II.....         |  | Tu. 21, Thu. 20               |  | Blacksmithing I.....        |  | Saturday 20                   |  |
| Horticulture Laboratory.....  |  | 39                            |  |                             |  |                               |  |
|                               |  |                               |  |                             |  |                               |  |
| Crop Production.....          |  | 13                            |  |                             |  |                               |  |
| Hygiene.....                  |  | Saturday 92                   |  |                             |  |                               |  |
| Domestic Science I.....       |  | Tu. & Thu. 16, Wed. & Fri. 16 |  |                             |  |                               |  |
| Short Course Cooking.....     |  | 14                            |  |                             |  |                               |  |
| Short Course Cooking.....     |  | 14                            |  |                             |  |                               |  |
|                               |  |                               |  | Elect. Dairying.....        |  | 6                             |  |
|                               |  |                               |  | Drill.....                  |  | 301                           |  |
| Singing.....                  |  | 30                            |  | Glee Club.....              |  | Fri. 12 m. 25                 |  |
| Violin & Mandolin.....        |  | 33                            |  | Military Band.....          |  | 63                            |  |
| Piano.....                    |  | 19                            |  |                             |  |                               |  |
| Piano.....                    |  | 20                            |  |                             |  |                               |  |
| Special Path. Laboratory..... |  | Monday A. M. 9                |  | Clinic.....                 |  | 15                            |  |
| Special Pathology.....        |  | Wed. & Fri. 9                 |  | Histology.....              |  | Monday A. M. 17               |  |
| Bacteriology Laboratory.....  |  | 14                            |  |                             |  |                               |  |
| Anatomy Laboratory.....       |  | 6                             |  | Printing.....               |  | 5                             |  |
| Printing.....                 |  | Tu. & Thu. 17                 |  |                             |  |                               |  |
|                               |  |                               |  |                             |  |                               |  |
| U. S. History A.....          |  | 20                            |  | U. S. History B.....        |  | 32                            |  |
| Grammar B.....                |  | 36                            |  | Grammar A.....              |  | 19                            |  |
| Phys. Training.....           |  | 43                            |  | Phys. Training.....         |  | 27                            |  |
| Short Course Sewing.....      |  | Phys. Training.....           |  |                             |  |                               |  |
| Short Course Sewing.....      |  | 48                            |  |                             |  |                               |  |
|                               |  |                               |  |                             |  |                               |  |
| Traction Engine.....          |  |                               |  |                             |  |                               |  |
| Geography.....                |  | 32                            |  | Arithmetic B.....           |  | 36                            |  |
|                               |  | Geography.....                |  | Physiology.....             |  | 16                            |  |
| Arithmetic A.....             |  | 25                            |  | Arithmetic B.....           |  | 32                            |  |
|                               |  | Arithmetic A.....             |  | Physiology.....             |  | 16                            |  |



***The College in Retrospect.***

The following is an editorial comment by the *Topeka Capital*: "A most interesting feature of the August Yale Alumni Monthly is a list of questions and replies giving the opinions of the class of 1896, now 10 years out of college, as to methods of education while they were at New Haven. At the time of their graduation the members of this class voted on the question of making religious exercises in chapel optional instead of compulsory, as they then were. This question is now put to the members of the class, and with 10 years to mature their opinion they vote 5 to 1 for compulsory chapel exercises, about 60 per cent of the class members voting. On the question whether too much time was given to the study of Greek, the class is almost equally divided, and on the kindred questions as to whether their own 'grasp' of Greek literature and life gave them satisfaction commensurate with the time devoted to it, nearly all replied that their 'grasp,' while feeble, had been all satisfaction, on 10 years' reflections. On the elective system of studies, there is a strong majority for the old-fashioned method of faculty-prescribed studies and hours, the argument being that the professors are better qualified to judge than the best intentioned students as to what will prove the most beneficial studies to pursue. And to the question, 'What relative importance would you now place on study and on activities outside the curriculum (*e. g.* athletics, societies),' the almost universal answer is studies first of all, social associations second in importance, athletic third and societies last. Objection raised to athletics is that comparatively few are encouraged to participate, and 'there was a pretty general feeling that general athletics should be developed more and less time given to university teams.' If this is the sentiment of Yale graduates, in the face of the great success of Yale teams in every branch of athletic rivalry, it should be even more the sentiment of graduates of other colleges. On the question whether the discipline of the college now seems to have been too severe, there is an overwhelming opinion that if anything it was too lax. These replies are especially interesting because of their uniform conservatism on all the questions submitted. The under-graduate is apt to chafe under discipline, to disparage Greek, to rail at enforced attendance at chapel, and to prefer optional and elective against prescribed studies. The mature view of 'old grads,' from the Yale replies is in effect a vote of confidence in the superior judgment of the faculty and overseers, and general approval of conservative methods both of government and of instruction."

# THE INDUSTRIALIST

*Published weekly during the College year by the  
Printing Department of the*

## Kansas State Agricultural College

Manhattan, Kansas.

PRES. E. R. NICHOLS.....Editor-in-Chief  
PROF. J. D. WALTERS.....Local Editor  
PROF. J. T. WILLARD.....Alumni Editor

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### Local Notes.

Mid-term examinations, Saturday, November 3.

The new Manhattan State Bank commenced business last Wednesday.

Work has been started to relay the defective cement walk in front of Agricultural Hall.

President Nichols went to Topeka on business last Wednesday and to Kansas City Friday.

Celery is doing nicely this fall in the College gardens. It is being marketed, now, and is of fine quality.

The Farm Department has sold 1103 bushels of wheat and barley at a total value of \$1560.45, this summer.

President Nichols will attend a special meeting of the State Board of Education on Tuesday of next week.

The Manhattan *Mercury* is a daily, now, and enjoys the distinction of being set by a linotype and printed by gasoline.

Professor Kammeyer was called to Kansas City last Thursday to the bed-side of his father, who is 81 years old and dangerously ill.

President Nichols and Director Burkett attended a farmers' institute and old settlers' picnic at Enterprise, Dickinson county, last week.

President Nichols is working on the biennial report of the College and hopes to have it in the hands of the State Printer in a week or ten days.

Reverend Milner, of Chicago, formerly pastor of the Manhattan Presbyterian church, addressed the students Friday morning in chapel on "Opportunities in Life."

Senior student Charlotte Morton is teaching an "overflow" class in freehand drawing. She says that the benefit is mutual and the balance is on her page of the ledger.

Janitor Lewis reports that his working force this term comprises 22 students and one assistant. The students work  $2\frac{1}{2}$  hours per school day and 8 hours on Monday. The "sweeps" begin work at 3:50 P. M.

The annual Bourbon county farmers' institute will be held at Fort Scott, October 31 and November 1. President Nichols, Professor Erf and Institute Superintendent Miller will attend from this College.



J. F. Morgan, junior at College some years ago, writes to Professor Walters from Sylvan Grove, Kan., that he is hard at work and has a warm spot in his heart for the glorious K. S. A. C.

Prof. R. R. Price spent Sunday in Kansas City with Mrs. Price, who has been ill some months. We are sorry to report that she is not recovering as rapidly as her friends had hoped.

Arrangements are being made to have an old-fashioned cross-country running before cold weather sets in. The students wish to run against the professors, if the latter will accept the challenge.

The Horticultural Department reports a record-breaking crop of pumpkins and squashes this year. Pumpkin pie will be plenty this winter.

Prof. Fredric A. Metcalf, formerly of this College, writes to Professor Walters that he is still teaching elocution in the Salt Lake City School of Oratory and Calisthenics.

Mrs. Florence Thompson, formerly the wife of Superintendent Thompson of the College Printing Department, writes that she is expecting to make her home in Denver, where her daughter, Ruby, is now living.

The football game between this College and the College of Emporia, played October 20 in the Manhattan athletic park, resulted in a walk-over for our boys. The score stood 35 to 0. The attendance was very good.

Prof. Henrietta Calvin, while doing institute work in Southwest Kansas, experienced a railroad wreck near Wichita. She reports that it was but little more than a good shake-up in her case, though several of her co-passengers were hurt.

Professor Erf is having the rear end of his office partitioned off for a "hard-work nook." The partition will contain a number of drawers and shelves for storing manuscripts and bulletins and will add much to the convenience of that busy quarter.

Programs are being sent out for a two-days' Jewell County Farmers' Institute, to be held at Mankato, Thursday and Friday, November 1 and 2. The College will be represented by Regent J. W. Berry, and Professors Ten Eyck, Calvin, and Kinzer.

The reader will find in this issue a schedule of dates and places for farmers' institutes from October 15 to December 15. The list contains a hundred appointments. Verily the gospel of better farming is being preached in Kansas at a good rate this fall.

Miss Ella Weeks, assistant in the Department of Architecture and Drawing, has plenty to do this term. She teaches a class of 55 domestic science short-course girls in freehand drawing, a class of 25 junior girls in the domestic science course in color and design, a class of 178 freshman in freehand drawing, and a class of 75 freshman in object drawing—a total 333 students. Yet, she is only one out of two dozen teachers who carry similar class-rolls and teach a similarly diversified number of subjects.

The grapes placed in cold storage at Topeka this fall by the Horticultural Department are in very good condition. It is a noticeable fact that all varieties that contain the blood of the European species have stored more successfully and have retained their flavor and quality.

The football game between the Haskell Indians and the "farmers," played last Saturday afternoon on the Manhattan athletic field, resulted in an easy victory for our boys. As it was the first public game of the season the College team looks upon it as a favorable omen.

Programs are out for the annual two-days' farmers' institute of Brown county, to be held at Hiawatha, November 15 and 16. The College will be represented by Professors TenEyck and Calvin. We notice that each member of our delegation is billed for three different subjects.

The senior class-book committee is composed of the following members: Ernest Adams, chairman; Allen Philips, Clarence Vevins, Ethel Berry, and Helen Westgate. This is the most important committee of the senior year; at any rate they will have the greatest amount of responsible work to do.

Professor McFarland has a class of 70 students in bookkeeping at the first hour, of which he enthusiastically speaks as the "crack class" in College. The room has 54 seats and 15 of the students have to sit in chairs on window benches, and on the desk platform, but they are doing "splendid work."

The Choral Union has elected the following officers for the College year: President, H. E. Porter; secretary, Florence Sweet; treasurer, Erwin Harold; manager, A. G. Philips; assistant manager, H. G. F. Oman. They will meet each Thursday afternoon at the 8th hour for one full hour of practice to prepare for an oratorio to be given next March.

The Horticultural Department grew ten or twelve bushels of native persimmons this year. They sell at ten cents per box and are in the market now. It has been a matter of considerable surprise to the local horticulturists that the trees began to bear as early as they did. Several trees bore a bushel a piece before they were five years old from the seed.

Prof. C. Georgeson, formerly professor of agriculture at this College and at present head of the government experiment stations of Alaska, sends us a copy of his annual report for 1905. The pamphlet gives an interesting account of the experimental work now carried on at half a dozen places in the new territory. It seems from its pages that there are many favored districts in Alaska where vegetable gardening, grain raising and dairying can be made to pay good returns. Potatoes, cabbage, turnips, beets, etc., can be raised during the months of June, July, and August, and bring fair crops. Several grasses do nicely. Angora goats seem to thrive exceptionally well. The professor is evidently in his proper element and we predict success for him.



The North Central Kansas Teachers' Association will meet at Abilene, November 29 and 30 and December 1. Doctor Clark, of the Chicago University, will entertain with a dramatization of "Ulysses," Thursday evening, and will deliver a lecture on Friday and one on Saturday. Doctor Clark is at the head of the public speaking department of Chicago University and is one of the most powerful speakers obtainable. Professor Valley, of this College, will sing Friday evening.

On October 5 an official count of students in attendance this fall term was made by Secretary Clemons. It was found that the total enrolment was 1356. Since then a number of students have entered, so that we must have about 1375 in actual attendance at present. By classes the enrolment was as follows: Graduates 13, seniors 119, juniors 139, sophomores 213, freshmen 674, preparatory 104, specials 26, domestic science short course 68. This is just 200 above the enrolment of last fall term.

Manhattan is enjoying a solid "boom" this year. A new court-house, two large annexes to the high-school building, a bank, three large store buildings and over forty residences were built within twelve months. The College built a \$40,000 Horticultural Hall, a 156 foot smoke-stack, and several additions to the power-house. This fall will witness the beginning of work on a \$30,000 post-office, and an \$8000 United Presbyterian church. Over two miles of sidewalk and two miles of street curbing were laid inside of eight months. The city now claims 5000 inhabitants exclusive of 1500 students whose homes are in other parts of the State.

#### ***Alumni and Former Students.***

Arthur Helder, '04, is employed in the trimming department of the Kansas City Parks.

H. L. Stevens, sophomore in 1904, is now pastor of the United Brethren church at May Day, Kan.

On a recent institute trip Professor Dickens, '93, met fifteen graduates and former students at a meeting at Marquette, Kan.

Winifred Johnson, '05, visited friends in town Sunday and Monday on her way to her home at Solomon Rapids, after a short visit in Oskaloosa and Kansas City.

Prof. Raymond H. Pond ['98], of the Northwestern University, has been awarded a research scholarship at the New York Botanical Garden for six months, beginning October 1.—*Science*.

Lena Finley, '05, returned to Manhattan on the 21st, after spending six months in California visiting with her sister, Emma (Finley) Scroeder, '97. She also visited a brother in Texas on the way home.

W. P. Terrill, '04, has been elected instructor in the mechanical department of the Prairie View Normal School, Prairie View, Texas. He was graduated from the Massachusetts Institute of Technology last June.

George W. Wildin ['92], mechanical superintendent of the Erie Railway, and Mrs. Wildin, of Meadville, Pa., arrived Wednesday evening in their private car and are the guests of Mr. Wildin's sister, Mrs. Ed. Halderman, 215 East Tenth street.—*Topeka Capital*.

R. F. Bourne, '03, is now a member of the faculty of the Kansas City Veterinary College. He is giving instruction in laboratory histology and physiology. He wishes to read the *INDUSTRIALIST* and meet his friends at 1330 East 15th street, Kansas City, Mo.

Carl E. Friend, '88, is reported by Professor Dickens as meeting with encouraging success in the first year's growth of thirty acres of catalpa and fifty acres of osage orange, which are being cultivated as post timber. His plantation is in Jackson county.

Miss Anna Monroe, '04, is enjoying initiation into the pleasures and pains of life at the University of Chicago. She is delighted with her work in botany, being especially pleased with that under Doctor Coulter, the head of the department. Her address is Kelly Hall, University of Chicago.

Mac Biddison, ['04,] a Manhattan boy who is known by the majority of our people, is now located at Joplin, Mo., where he has a position as consulting engineer with the Hope Engineering and Supply Company, at a considerable increase in salary. Mac is a jolly good fellow, with brilliant promises of a successful future.—*Mercury*.

John S. Houser, '04, and Bessie A. Mudge, '03, were married Wednesday evening, October 17, at the residence of the bride's brother. Among the out-of-town guests were Ruth Mudge, '01, and Eusebia (Mudge) Thompson, '93. The new couple will live at Wooster, Ohio, where Mr. Houser is assistant entomologist of the experiment station.

The Graduate Ionian Society met Monday evening of this week with Vera McDonald, '04, and elected officers for the next six months, as follows: Ada Rice, '95, president; Alice M. Melton, '98, vice-president; Gertrude Rhodes, '98, secretary and treasurer; Ina Holroyd, '97, critic. The next meeting will be with Miss Rice, on the evening of November 12.

At the Failyer home, Thursday evening, October 18, Corinne Failyer, '03, and H. C. Kyle, '03, were married by the Rev. O. B. Thurston. A number of relatives from a distance were present. After a short visit at Mr. Kyle's old home, they returned to Manhattan and will leave soon for Wooster, Ohio, where Mr. Kyle is assistant in agronomy in the Ohio Agricultural Experiment Station.

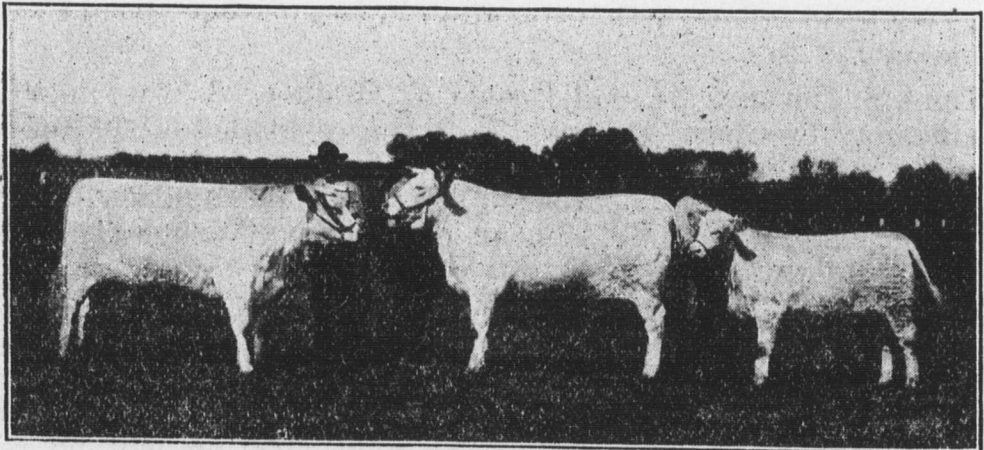
W. W. Stanfield ['05], of Chanute, Kan., is the organizer of the Farmers Coöperative Union in Neosho county, and all readers of *The Farmers Advocate* should assist him in every way possible. Mr. Stanfield is a graduate of Kansas State Agricultural College, of Manhattan, a bright young man who can explain the advantages of the Farmers Union and the coöperative movement. Arrange for a meeting for him in your neighborhood in Neosho county.—*Farmers Advocate*.



C. A. Chandler, '00, has been appointed superintendent of Swope Park, Kansas City, Mo. This is one of the largest parks in the country and Mr. Chandler is to be congratulated upon his opportunities and Kansas City upon its superintendent of the park.

J. T. Skinner, '04, and Emily Smith, '06, were married Tuesday evening, October 16, at the home of the bride's parents, Childress, Texas. After November 1 they will be at home at 904 Ohio street, Lawrence, Kan. Mr. Skinner is superintendent for the Lawrence Electric Light Company.

Changes of address: Clara F. Barnhisel, '04, 534 East 8th street, Newton, Kan.; Edna Brenner, '06, Riley, Kan.; W. H. Harold, '05, 417 W. Reno street, Oklahoma, Okla.; O. N. Blair, '04, Quenemo, Kan.; Lois Stump, '03, Holbrook Hall, Washburn College, Topeka, Kan.; C. W. Fryhofer, '05, Dairy Division, Department of Agriculture, Washington, D. C.; Otto A. Hansen, '05, R. F. D. No. 1, Waldo, Kan.; W. W. Stanfield, '05, R. F. D. No. 4, Chanute, Kan.; Christine Hofer, '02, Brielle, N. J.; J. B. Harmon, '95, Wigham, Colo.; T. L. Jones, 1224 Sandusky street, Kansas City, Kan.; S. E. Morlan, '04, 2727 Bales avenue, Kansas City, Mo.; W. E. Smith, '93, American Bank Building, Kansas City, Mo.



The three Shorthorn steers shown above were selected and fitted by the Animal Husbandry Department of the Kansas State Agricultural College, and shown at the American Royal Live Stock Show held in Kansas City October 6 to 13, 1906. Their winnings were as follows: Tim, the two-year-old, won first in class and sweepstakes in pure-bred Shorthorn. He also won the Chas. Dixon's special for best Shorthorn steer, any age, pure-bred or grade. The yearling steer, Lord Hanna, stood fifth in class; the calf, Col. Harriman, won first in class. As a group, they won the first prize as best herd of pure-bred Shorthorn steers, consisting of one steer two years old and under three, one steer one year old and under two, and one steer under one year old. The total cash winnings of the herd amounted to \$185.00, the steer Tim having \$90.00 of this amount to his credit individually. The two older steers were in the first prize pure-bred Shorthorn herd at the International Exposition in Chicago, 1905.

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No. 5

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# THE INDUSTRIALIST.

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## *Experiment Station Work.*

In all lines of investigation the individual is the all-important and determining factor. Buildings, equipment, the scientific atmosphere, and the inspiration of the field all contribute to make the conditions favorable and to stimulate activity; but without the genius and originality of the man himself the progress along original lines will be slow and uncertain. Upon him will depend in very large measure the character and the success of the investigation.

In agriculture this is especially the case. Agricultural research calls for very special qualifications in the way of native ability and scientific acumen. It requires as high order of training and experience as any line of research in either pure or applied science, and in addition it demands a general knowledge of practical methods and conditions in order that the investigation may be directed intelligently. It represents the culmination of efforts for the advancement of agriculture upon an enlightened and scientific basis, and as such it should have the very best material available, surrounded by conditions which will be conducive to the best results. More depends upon it for the progress of the human race than upon research in any other line of industry.

The problems in agriculture are complex, requiring a deep insight and the ability to separate them into their various phases. The investigator should have a sufficient grasp of the subject in both its practical and its scientific relations to be able to analyze it and determine the point of attack. This implies thorough familiarity with the methods of research, the ability to concentrate upon some phase and to make progress on the basis of definite knowledge. For scientific study the projects must not be too broad or include too many factors of possible influence. They must be simplified so as to bring them down to a working basis, and gradually as one point after another is cleared up, they can be broadened and extended.

The difficulty which some men have in outlining a project definitely, so that it may be considered by itself as a definite phase instead of as a broad problem, is in part due to insufficient training



for research. Too few of our station men have had the advanced training which this requires. It is not required in the regular college course. It comes with special study under a trained mind, in the course of which something of the spirit of investigation is imbibed, the meaning of an investigation is learned, and familiarity is gained with methods of procedure. Unless a man has had this or its equivalent, it is too much to expect that he can fully appreciate the real difference between research which gives definite knowledge, and more superficial experiments which give results only half understood, or that he can differentiate his subject and outline a scientific method of procedure.

Station men divide themselves into three general classes, all useful in the advancement of agriculture, but with special qualifications which should be recognized in organizing the work. There is the man in especially close touch and sympathy with the farmer, who is impressed with the need of disseminating information upon matters already known, and whose greatest interest and success lies along the line of demonstration experiments and extension work—a promoter, as it were, who by the force of his enthusiasm and his ability to present matters in a convincing way has great influence in introducing improved methods and in spreading the work of the station. This is essentially extension work. It depends upon the work of others, and lacks originality except in interpretation and application. Such men are not suited temperamentally to the work of investigation, but they may be able to make better use of the results than the investigator himself.

Another class of men conduct trials and experiments upon a great variety of practical questions in farm management, using rather simple, conventional methods, and often carrying the work out upon a commercial scale. A considerable amount of scientific data may be collected in their work, but this is reported in a somewhat incidental manner, and is not digested and marshalled in such a way as to contribute to a scientific understanding of the results observed or principles involved. The real object is to show the most economical method of fertilizing for a given crop, the comparative value of this and that feeding stuff, the yield returned under different methods of culture and the like.

A third group of men always have in mind, even in what are apparently simple experiments, a recognition of the principles which are operative and which serve to explain the results. They so plan their work as to not only give the farmer a practical answer, but to answer the questions of science as well. They are not satisfied with the empirical result. The spirit of the investigator de-

mands to know why, and they will not be satisfied until they have worked out the fundamental reason.

The last class unfortunately makes up the smaller number. The gap between them and the second class is often a narrow one, and shows itself chiefly in an attitude of mind. Their work often does not appeal as strongly to the popular mind, and arouses little interest until some brilliant result is secured. It is not spectacular in character, and there is greater difficulty in securing appropriations for it. It was largely for this reason that Congress was asked to provide the means for extending it through a permanent appropriation.

The scarcity of men suited to the advanced work contemplated by the Adams Act is the principal cause of difficulty experienced in preparing for operations under that act. It represents a certain unthreadiness in some instances.

This scarcity is to a large degree a result of the ideals and tendencies which have dominated station work in the past. The practical phase—the immediately practical phase—has been constantly in the foreground. The earlier years of the stations' existence were given to winning the farmer's confidence and support by doing work which would appeal directly to his practical sense, and since then we have been busy trying to answer, usually in the quickest way, the questions he has showered upon us. There has been an increasing demand for such work, and there has grown up a too prevalent idea that, as the stations belong to the farmers, their duty is to serve the farmer in his own way. In our desire to recognize him we have gone to the extreme in some respects, and it has affected our progress as scientific institutions. It has done more; it has affected our standards of ourselves and of our own requirements. It has given false ideals to young men preparing to enter the work, and insufficient encouragement to those who have striven to give their work a deeper trend. Too often the measure of a man's success has seemed to be his ability to get at the farmers, and to do some comparatively simple work which attracted popular attention. The standard for station workers has been too low. This has already had its effect, which is now being keenly felt in a lack of the true spirit of investigation and a scarcity of men suited to undertake it.

There is no question as to the ultimate aim of the stations, or the desirability of doing work which will be of assistance to the farmer. The station is for the benefit of the farmers as a body—for agriculture; but it is a mistake to encourage the impression that the station is a question box, and to make the immediately practical ex-



periment the only goal of our ambition. There is little danger at our American stations that the practical needs of the farmer will not be kept prominently in mind; but with the progress of our work year by year there is great need of broader and deeper study of the problems we are passing upon, to reduce the empirical results to a more scientific foundation and furnish a safer basis for generalizations.

The planning and inauguration of work under the Adams Act will require careful gauging of the abilities of different members of the station staff, in order to select those best suited to undertake investigations. It must recognize the advanced character of the work to be undertaken and the special qualifications of the individuals composing the staff.

At many of the stations there is a quite general demand from the different departments for a share of the new fund to supplement their resources, and the easiest method is naturally to divide it between the different departments of the station without a very critical consideration of the proposed work. This will not meet the requirements, and will surely not yield the best results. It will include work which does not belong under that fund, and it will usually provide too many projects, reducing the means available for each so that it will be impossible to do the thorough work which is contemplated. The projects need to be very carefully sifted, and those selected which commend themselves especially by reason of their character, their ultimate importance, and the facilities of the station.

In every station there are some men and some departments better fitted to this higher work than others. In every case a process of selection or elimination must be followed, and in some cases men must be secured from the outside to plan and conduct the new lines of investigation. At best only a few men in each station should be selected at the outset.

Not only does the new work raise the grade of requirements in the personnel, but it calls for a differentiation in the station work as a whole—for greater concentration upon investigation as distinguished from other duties. Obviously a man engaged in such work should not be hindered and burdened by elementary teaching or farmers' institute work or answering miscellaneous correspondence or supervising control or police work. The college and station work should be so organized as to free him from such interruptions and distractions, except on special occasions. Other men can attend to these various duties, but the man with the

genius for investigation is too rare to be sacrificed to the duties more easily provided for.

Already there has been considerable demand for new men with good scientific education and capable of advanced work—usually for men who have developed as experts in special lines. This will result in a shifting of men from one institution to another, and the keen competition for the men of established reputation will doubtless result in many of the institutions with smaller revenues losing their most valuable men to the larger and more favored ones. This shifting is a very serious matter, often resulting in much waste of time and funds in incomplete investigations. Time is required for becoming familiar with new conditions and for establishing the work in a new locality. On the other hand, much time is lost to the station in finding and training another man, and the efficiency of the station in that line is temporarily diminished. There is no saving in exchanging a man of known ability and usefulness for one a few hundred dollars cheaper who is an uncertain quantity and must learn the conditions and adjust himself. On the contrary, there is a period of unproductiveness and uncertainty which is expensive to the station and an added strain on the administration.

These changes in personnel might often be avoided by a fuller recognition of the relative value of the man to the station, and a breaking away from tradition or uniformity in the matter of salary. This should be appreciated by those responsible for the stations' welfare. Any station which has a man with a real genius for investigation in the lines it proposes to pursue should make every effort to retain him, even at the sacrifice of precedent. Given a similar line of problems, an investigator of recognized ability is usually as valuable to the station where he is as to another. The Adams fund has tended toward an equalization of the stations in the matter of investigation. The burden of such work rests upon all alike. Each station now has a special research fund of \$7000 this year, which will go on increasing for the next four years, when it will represent an endowment of \$300,000 at 5 per cent. This is a very creditable research fund for any institution, and should enable the payment of salaries which will insure the best men the field affords.

At a considerable number of institutions the scale of salaries is too low to expect the most competent men to remain. The lesson this false economy has taught should have left its impression long ago. Cheap men are always expensive if of indifferent ability, especially in the advanced work of investigation, and if their work



is stamped with high ability they are soon called to other positions. Better far to pay a good salary which will keep men satisfied and assure a certain degree of permanency than to lower the grade of efficiency by frequent changes or employing men of second-rate ability.

The station work should not be held down by a low salary standard in the college or university, as is sometimes the case at present. This is an unfortunate policy and fails to recognize three things—the relative scarcity of men of high attainments in agricultural science, the expert character of the service required, and the longer period of the working year in the station than in the instruction departments. Good business judgment must recognize that the supply of men who have specialized in agricultural science and won distinction as investigators is considerably short of the demand. In other walks of life a man's earning capacity is gauged by his ability and the supply of equally able men. There is no reason why this should not hold in the station work, especially in the advanced work where the highest order of ability is required. Too great conservatism in the matter of salary will surely prevent the expectations of the Adams Act from being fully realized, by keeping down the grade of men who enter and continue in this work, and by causing the better ones to be drawn away to stations which bid higher.

More young men should be encouraged to enter experiment station work and to take advanced courses which will give them a thorough grounding and make them strong and resourceful investigators. A large number of such men are needed in nearly every department of agricultural work to-day. Surely there should be encouragement for men with a taste for research to prepare themselves for it along agricultural lines. A career is open to them which is attractive from the fullness of the field and the opportunity for great public usefulness. The pecuniary rewards are not such as may be reached in commercial lines, although there the higher salaries are actually reached by only the few. But such work is inviting to men with a taste for it, aside from the mere matter of salary, and in no line of research is a more inspiring field open. The high grade of the service should be fully recognized in both the dignity of the position and the salary. Competent recruits are needed now more than ever before in the history of our stations. They are essential to the development of their work and to meeting the requirements and expectations of the Adams Act.—*Experiment Station Record*.

**At Topeka.**

Jay Rah, Gee Haw!  
Jay Hawk Saw!  
K. S. A. C.,  
Rah, Rah, Rah!!

This is the sound that floated over Topeka on the chill autumn air this morning. It came from a body of students of the State Agricultural College at Manhattan who had climbed to the top of the state-house dome and who were by this means advising the people of Topeka who they were. The fact is that the "Aggies" literally captured Topeka, for nearly one thousand of them came down on two special trains to furnish enthusiasm for their football team. The purple colors of the students were soon on the street-cars, in the stores and at every street corner. For the time being Topeka put on the airs of a real college town and the Aggies were the most conspicuous figures in the demonstration.

Two trains of the Rock Island railroad brought the enthusiastic visitors to Topeka. The first section arrived shortly after nine o'clock, and it was nearly half an hour before the second came. In the meantime those on the first section had tired of waiting and started out to see the city. When the second train came the remnant of those on the first and most of those on the second section formed in columns of fours and with the neatly uniformed student band of thirty-five pieces at the head marched up Kansas avenue with banners waving and ribbons flying. During the lulls in the music the strong voices of the students kept the air vibrating with their college yells. The heroes of the occasion, members of the football team, stalwart, handsome young men with the strength and determination to do their best written in every line of their faces, marched just behind the band flanked by numerous admirers. The students did not halt until the *State Journal* office was reached. Then the line stopped while the band played, in compliment to this newspaper, an honor which is much appreciated. Then the repertoire of yells was given and the students countermarched to the Throop hotel, where they have their headquarters.

There were girls, three hundred of them, but though they did not march with the other students they took no less interest in the proceedings, and many a bright eye flashed a signal of encouragement to the young men who were shouting for the glory of the K. S. A. C.

Topeka has never seen a football excursion like this, and if the young people will come again they will find as they have to-day, that Topeka appreciates their presence.

Whether the Manhattan team beats Washburn or not it will not



be the fault of the student body, as they are the most highly enthused aggregation of college students which has appeared in Topeka for some time. They occupied the entire east bleachers and their yelling at the game this afternoon completely put the Washburn crowd out of the business as far as the rooting was concerned. They brought nearly as many students to Topeka this morning as there are in all the departments of Washburn College.

The "Aggies" certainly are to be commended for their enterprising student body. There is nothing under the sun that will lend a team more encouragement than a large delegation of their own students rooting their lungs out in the hopes that victory may crown the efforts of the Aggie football team. The *State Journal* commends the enthusiastic bunch which attends school at K. S. A. C.—*Topeka Daily Journal*.

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### **October Weather—Report of K. S. A. C. Weather Station.**

October 1906 was marked by high temperatures during the earlier part of the month and low temperatures for the last part; however, the weather for the month was about the average October weather.

The mean maximum temperature for the month was  $68.50^{\circ}$ . The mean minimum temperature was  $42.5^{\circ}$ .

The mean temperature of  $55.5^{\circ}$  for the month was  $.6^{\circ}$  above normal. There have been 23 colder and 23 warmer Octobers in the past 46 years. The highest was  $90^{\circ}$  on the 7th, as compared with  $96^{\circ}$  on October 4, 1898. The lowest was  $22^{\circ}$  on the 10th, as compared with  $11^{\circ}$  on October 23, 1863.

Frost came on the night of the 1st, but did no damage. The first killing frost was on the 10th, which is the average date for our first killing frost.

The rainfall for the month was only .83 inch, or 1.1 inches below normal, this being the least rainfall in October since 1895. There were five rainy days, the greatest amount in 24 hours being .35 inch, coming on the 15th. There were 21 clear, 4 part clear and 5 cloudy days.

The barometer showed no marked changes in air pressure. The highest was 29.43 inches on the 31st. The lowest 28.52 inches on the 4th. The average pressure for the month was 28.94 inches.

The general direction of the wind for the month was from the west, the total run of wind being 6550 miles, or an average of 8.8 miles per hour. The run for the month was 449 miles below normal.

Conditions have been most favorable for all kinds of farm work, the unusual heavy rains of September placing the ground in splendid condition for plowing and seeding.

### ***College Musical Organizations.***

Prof. R. H. Brown reports the following composition and instrumentation of his three musical organizations the present fall term:

#### COLLEGE ORCHESTRA.

First Violins—Bartholomees, Geo., Hand, R. R., Kipp, C. L., Seng, A. W., Oteyza, M., Pears, Miss, March, Miss. Second Violins—Schlaefli, Jno., Manning, V. V., Taylor, W., Graves, R. R. Clarinets—Grabendike, F. W., McKirahan, Chas. Flute—Lawson, L. W. Cornets—Cowles, A. J., Sturgis, L. A. Trombones—Christy, G. S., Bixby, H. E. Horn—Rose, A. H. Bb Bass—Krause, C. Piano—Lill, Gertrude. Drums—Harris, Wm.

There are practically two College bands organized this term. The Concert Band is composed of old players and upper classmen who are able to play a more difficult grade of music than the Cadet Band which is mostly composed of new students and furnishes music for the military parades.

#### CONCERT BAND.

Flute and Piccolo—Lawson, L. W. Clarinets—Grabendike, F. W., McKirahan, Chas., Eaton, G. R., Hershey, H. E., Bates, H. P., Tinkham, Jno., Carnahan, J. R. Cornets—Elsas, M., Cowles, A. J., Sturgis, L. A., Williams, R., King, W., Shank, W. H., Lewis, F. Horns—Rose, A. H., Hand, R. R., May, G. B., Hoffman, L. G. Saxophones—Nyberg, M. O., Bates, A. J., Bartholomees, Geo. Trombones—Christy, G. S., Runyan, L. C., McClung, J. R., Smith, E. E., Moorman, R., Kirgis, F. J. Euphoniums—Bixby, H. E., Kittell, A. G. Bases—Seng, A. W., Porter, H. E., Walters, D. Drums—Kipp, C. L., Harris, Wm., Regnier, R. String Bass—Krause, C. Tympani—Oteyza, M.

#### CADET BAND.

Flute—Oteyza, M. Clarinets—Hershey, H. E., Tinkham, Jno., Carnahan, Jno., Bates, H. P., Price, J. J. Cornets—Williams, R., Shank, W. H., Shelton, O. A., Kelly, P. V., Perry, C. A., Jackman, D., Pennington, H. A., Rader, F. T., Waller, F. W., Neil, G. F. Alto—Snider, C. B., Kiser, E., Painter, B. H. Tenors—Warner, L. E., Crowther, D. A., Dixon, M. F. Saxophones—Bates, A. J., Bartholomees, Geo. Baritone—Rankin, H. A. Tuba—King, H. I., Martin, T. R. Drums—March, K., Harris, Wm. Drum Major—Farrar, F.



# THE INDUSTRIALIST

*Published weekly during the College year by the  
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## Kansas State Agricultural College

Manhattan, Kansas.

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### Local Notes.

The Faculty have voted a Thanksgiving vacation for Thursday, Friday and Saturday, November 29, 30 and December 1.

The Chemical Department has recently received three Sartorius analytical balances for the use of students in quantitative analysis.

The alumni committee which is soliciting funds for the memorial portraits reports receipts from ninety persons, aggregating \$317.50.—*Jayhawker*.

The Y. M. C. A. and Y. W. C. A. have jointly presented Professor Olof Valley, of the Music Department, with a fine colored lithograph, framed in a beautiful oak frame, as a token of their appreciation of his kind assistance given on many occasions.

The half-term class in heating and ventilation, which had its final examination last week, has petitioned Professor Walters to give them another course of twelve lectures on this interesting subject, if time can be found for a regular day session.

The clock for the new court-house will soon be in place. It was manufactured by the E. Howard Clock Company, of Boston, Mass., the price being \$1169.00. The four dials will be six feet eight inches in diameter, and will be illuminated by electric lights. The bell will weigh 1200 pounds.

The weekly review of the College battalion is being held on Thursday afternoon at 2:50, in front of Anderson Hall. A large number of visitors are usually on the campus these fine fall days to see the parade and hear the band. The boys are doing well and the new cadet gray uniforms are handsome.

We notice in the daily papers that Frederick G. Thompson, of Manhattan, has been appointed to a clerkship in the meat inspection division at Kansas City. He is a son of the late George F. Thompson, chief editor of the Bureau of Animal Industry, Department of Agriculture, and at one time superintendent of printing at this College.

To-day (Saturday) the College expects to be visited by a train-load of happy visitors from Dickinson and Saline counties. The excursion will arrive here about ten o'clock and leave in the evening. The day will be spent in visiting the shops, laboratories, museums, cattle yards and experimental fields. In the afternoon there will be a game of football between our College second team and that of the Dickinson county high school. The College band will give a concert on the campus and all will be happy. Saturday is somewhat an off day with us, but our visitors may be certain of a cordial welcome.

The experimental mill in the Chemical Department has been running nearly every day the last week or two. Assistant Chemist Swanson is becoming able to produce a very good separation of flour. The mill will be used in testing the flour-producing qualities of numerous varieties of wheat grown by the Experiment Station and its branches.

President and Mrs. Nichols, their son Rae, and Director Burkett, of the Experiment Station, started to-day (Saturday) for Baton Rouge, La., to attend the annual meeting of the American Agricultural Colleges and Experiment Stations. They expect to be gone about ten days. Professor Walters will hold down the executive chair pending the President's absence.

The *Jayhawker* for October contains a very interesting five-page account of H. V. Harlan's, '04, experience in climbing the great Canlaon volcano near Iloilo. It also publishes an interesting two-page article by C. G. Elling, '04, on his experiences with the rebels near Havana, Cuba. The whole number is full of good things and is a credit to its editor who, by the way, is so modest that she does not reveal her identity.

The following students attended the State Y. W. C. A. convention as delegates, which met in Topeka October 26 to 28: Ethel McDonald, Allan Cooper, Margaret Copley, Alice Foster, Bea Alexander, Alice Tucker, Minnie Conner, Anna Harrison, Ethel Berry, Grace Hull, Grace Leusler, Gertrude Grizzell, Neva Larson, Kate Hutchinson, Anna Tolin, Myrtle Kahl, Ella Hathaway, Ada Holroyd, and Miss Thayer. All report a profitable time and fair entertainment.

In addition to the branch State Normal and the State Experiment Station, Hays City will soon have a business school. The Capuchin Order of Priests, at Pittsburg, Pa., have taken steps to locate a commercial college at Hays. It has been known for some time that this institution would come to Ellis county, but Victoria seemed to be the location desired. The building for this school is to be 60x80 feet and three stories high. Rock and sand will be hauled this winter and the work of construction will begin in the spring, as soon as the weather will permit.

Dr. W. A. Kellerman, professor of botany at this College during the eighties and since that time the head of the department of botany at the Ohio State University, sends us a copy of the *Journal of Mycology* containing a very interesting account of his recent three months' trip to Guatemala, Central America, where he had gone to collect parasitic fungi. We are glad to note the success of the professor's expedition and the evident success which he has made of the *Journal*, a bi-monthly edited and published by him. The periodical was started twelve or thirteen years ago by Mr. Bartholomew, of Rooks county, Kan., but soon after acquired by Professor Kellerman, who published several volumes from Manhattan. It became the recognized mycological medium of America and is now a cosmopolitan.



We will be glad to receive and publish reports from the many county corn-judging contests organized during the past year. This week we heard, through the *Kansas Farmer*, from Shawnee county: "Shawnee county organized her corn-growing contest rather late last spring. But about thirty boys entered, twenty-two of whom exhibited samples of their products at the courthouse November 3. After entering their ten-ear samples, the boys were invited to a banquet at the expense of the Topeka Commercial Club. On their return to the city court-room, in which the contest was held, Maj. T. J. Anderson, secretary of the Commercial Club, on behalf of business men of Topeka, presented each boy with an excellent knife. R. S. Brigham, manager of the Midwinter Exposition, announced that the winners of the first and second prizes would each be given a free pass to the exposition during its entire continuance."

President Nichols and Professor Kinzer were in Chicago last week conferring with delegates from other agricultural colleges and the managers of the Annual International Stock Show in regard to the agricultural scholarships for which the great packer, T. O. Armour, has offered an annual gift of \$5000. It was decided to give one scholarship to each college leading in judging horses, cattle, swine, sheep and corn, and one to the college making the highest average. One scholarship will be given to the college making the best exhibit of feed stuffs. The remaining thirteen scholarships will be awarded to the colleges in proportion to their winnings at the International Stock Show. No college can get more than forty per cent of the scholarships, and it will be seen that at least three colleges will receive one or more of the gifts. The scholarships received by the colleges will be awarded to poor and deserving agricultural students by the respective college authorities.

C. W. Burkett, director of the Experiment Station, at Manhattan, and also of the other stations in Kansas, was in the city yesterday interviewing the county commissioners and other influential citizens in regard to the plans for enlarging the Experiment Station near this city. The lease on the forty acres which the Experiment Station now utilizes will expire in about a year from now, and then the agriculturists would like to start the work on a larger scale, and if the county will buy or secure a long lease on a tract of about seventy-five acres near McPherson, large buildings will be erected and a large force of trained workers will carry on farm experiments in a manner that will be very instructive and profitable to the farmers of this county and also to farmers of Central Kansas. A farmers' institute will also be conducted at different times during the year. The commissioners have expressed themselves in favor of the proposition, but are not certain of their authority to expend the county's money in that way. The laws in regard to the county commissioners' power in that regard will be investigated and a report will be made at their next meeting.—*McPherson Republican*.

Some time ago E. M. Haise wrote Professor Popenoe from Russell, Kan., that he had discovered the petrified skeleton of a huge Saurian about 18 miles south of that place. Professor Popenoe went there and unearthed the fairly well preserved skeleton of an animal that, when alive, must have measured 25 to 30 feet in length. Mr. Haise also gave the Professor a section of a petrified tree trunk about 9 inches in diameter and 4 feet long, a very fine Indian catlinite pipe inlaid with metal, and a collection of petrified shark's teeth. These articles were presented to the College museum and will be on exhibition as soon as they can be properly labeled.

### ***Alumni and Former Students.***

Mary E. L. Hall, '04, 222 Brook street, Los Angeles, Cal., writes that she has entered the State Normal School.

Prof. G. H. Failyer, '77, after spending most of his vacation in Manhattan and vicinity, returned Saturday to his duties in Washington, D. C., where he is one of the chemists in the Bureau of Soils.

Lorenz Greene, '06, takes the place of J. B. Thompson, '05, as assistant horticulturist in the New Mexico Agricultural College. Mr. Thompson goes to Manila, in the service of the United States Department of Agriculture.

R. D. Harrison, '06, 1212 Jersey street, Quincy, Ill., is attending the Gem City Business College of that place. His agricultural education, however, leads him to be interested still in a more reasonable method for computing balanced rations. After studying bulletin No. 115 he hopes to find a new method.

C. A. Hite, senior in 1905, is at Utica, N. Y. He is foreman in the construction of a concrete chimney eight feet across and 207 feet high which is being built for the Shenandoah Cotton Company by the Weber Steel Concrete Chimney Company, of Chicago. Mr. Hite sends a very interesting post-card bearing a photograph showing the work in progress.

Friends furnish us the following particulars regarding the death of Bert Martin, which was mentioned in the paper last week: A. E. Martin was born at Macomb, Ill., January 10, 1870, and died at Harrington, Ariz., August 26, 1906, after an illness of only two days, of diabetes. For ten years he was in the employ of the Central Union Telephone Company, of Peoria, and other points in Illinois as manager and superintendent of installation and equipment, and for the past two years he served in the latter capacity with the Sunset Telephone Company, at Sacramento, Cal. Mr. Martin was united in marriage with Clara Cope, of Streator, Ill., December 20, 1897; she and a little daughter Edith, 4 years old, survive him. He was visiting his mother and brothers at Oro and Harrington, Ariz., at the time of his death. The remains were taken to Pasadena, Cal., where Mrs. Martin's parents reside, for interment.—*Macomb (Ill.) Bystander.*



Wren Thurston, '06, in the employ of the Western Electric Company, Topeka, Kan., has received notice of promotion, and after January 1 will be located in Chicago.

Changes of address: E. P. Smith, '95, and Mabel (Cotton) Smith, '96, Globe, Ariz., L. A. Fitz, '02, 1542 Ruskin Avenue, Baltimore, Md. N. L. Towne, '04, Box 1015, Rawlins, Wyo. W. C. Lane, '05, 2275 Norwood Avenue, Station H, Cincinnati, Ohio.

In a letter to Professor Walters, J. A. Conover, '98, writes that since the first of last July he has been connected with the Dairy Division of the Bureau of Animal Industry, United States Department of Agriculture, his headquarters being at Raleigh, N. C. His work is to visit farmers in that state and Virginia and help them in selecting and improving their dairy herds, in the building of barns and silos, and in improving their products and finding a market for them. He likes his work very much, but finds much more of it to do than he can accomplish.

T. W. Morse, '95, with Messrs. Howard and Walker, is editing and publishing the *Breeders' Special*, at Kansas City, Mo. The first number was issued October 6. The paper will not attempt to cover the whole field of agriculture, but will find one of its fields "in the realm of business methods and statements of accounts and records that especially interest the farmer who sells the products of his farm, either fine stock, seed-corn, pure-bred poultry, or what not, through the media of public sales, exhibits, catalogues, and advertisements of all kinds." Questions of breeding and feeding for shows and sales, information concerning markets in every line of pure-bred farm products, and other lines of information will be included in its specialties. The numbers thus far issued show ample promise of continued success. The young men were delayed in launching their enterprise by a temporary injunction gotten out by a rival paper which required only a hearing before the court to be set aside.

Prof. K. C. Davis ['91], of Menomonie, Wis., a son-in-law of Dr. A. F. Waugh and wife, has been offered a position as dean of St. Lawrence University, a New York state institution at Canton, at a salary of \$3000 a year. Mr. Davis has a great many friends in Manhattan who are glad to learn of the splendid success he is making in life. Mrs. Davis was in Manhattan several weeks ago and spent some time with her parents. The Dunn county *News*, of Menomonie, Wis., tells of the following incident which led up to the offer made Professor Davis: "It is certainly a sign of the times when Eastern educators adopt Western models for their schools. The Dunn County School of Agriculture will serve as a pattern for the agricultural department of St. Lawrence University, a New York state institution at Canton. President Almon Gunneson, of the New York school, and Judge Abbott, a member of the executive board, were here Sunday to inspect what Dunn county has to offer in the way of agricultural education. They went away fully convinced that they had seen a model and will make a detailed application of their observations."—*Mercury*.

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THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., NOV. 17, 1906.

No. 6

Agriculture: A School Subject.

A child is educated for two reasons: first, that he may know—know widely, accurately, systematically; second, that he may do—do intelligently, honestly, efficiently—in other words do with character. This being true it follows that agriculture is one of the most useful of sciences from an educational point of view. It offers in a preëminent way (1) a wide field for accurate, interesting uplifting knowledge—a knowledge of the relationship and adjustment of all the forces of nature; and at the same time it offers (2) a wide field for doing. This latter field is healthful, honorable, lucrative, and independent.

A Cultural Subject.—Agriculture is therefore both a cultural and practical study. It is cultural because it is concerned with the highest truths that the mind can consider, namely the laws of life, of growth, of heredity, of adaptation, of selection, of environment. It deals with the biggest objects in nature, namely the ground, the waters, the forests, the crops by which all life is supported, the animals that cover the earth. It views all these objects in relation to universal laws and shows their interdependence.

A Practical Subject.—Then, in the next place, agriculture is the most practical of sciences. The knowledge acquired from it can at once be applied to life. It is also practical in that it shows the relation between cause and effect. It is not sufficient that a man should know that clover increases the fertility of the land. He should know how it does this, just as he knows how the earth rotates on its axis. It is not enough for a man to be told that good plowing makes better crops. He must know why it does this, just as he knows how his multiplication table is made. Both as an intelligent and as a practical being he is interested in knowing how bacteria cause milk to sour; how germs assist in cream and butter making; why ashes are helpful to plants, why drainage is good for the soil; and countless other things are as easily taught as the facts of arithmetic and geography, and that are far more interesting and useful.

What to Teach and What Not to Teach.—In agriculture, of all subjects, the teacher should aim to teach not so much the *how* as the *why* of things, in order that a knowledge of the *why* may cause the *how* to be the more intelligently done.

The teacher, therefore, need not undertake to show the pupil how to plow, but rather to show him from the text what is to be gained from the right kind of plowing. The pupil, having acquired this information, will plow aright when he comes to plow, for he will understand the aims and results of good tillage.

In like manner, the teacher is not expected to have milk cans in the schoolhouse in order to show pupils how to scald and sun them. However, if the pupil is taught how dirty cans harbor germs, and that these germs spoil the milk and also carry disease, he will attend to his milk cans when he goes into business for himself, and by having better milk he will succeed better.

The teacher cannot, of course, have an orchard in which to show how to prune and spray fruit, but by following the text the teacher can show how spraying and proper pruning improve the fruit, and can also take a walk with the pupils and show them some orchard that is properly cared for. Then, when these pupils come to raise orchards of their own, they will find ways and means to apply their knowledge.

In short, teaching the simple truths that lie at the very door of successful farming and of good living is all that is expected of the teacher. These truths all can be obtained from the text-book. Remember that it is not the amount of facts acquired that makes the successful man or woman. It is the facility given by study, the power of thought, the turning of fresh minds to primary truths, the bent in the right direction—these are the things that give people a grasp that leads to able doing. Any earnest teacher can give this primary push.

The Teacher's Attitude Towards Agriculture.—The teacher must not think that he must know all agriculture to teach some. Your aim is not to teach girls and boys to be model farmers; that will come of itself, if you turn their young minds to a first-hand study of agricultural truths. If you arouse their interest in the plants around them, if you awaken their sympathy and love for animals, if you teach them the simple and beautiful laws of nature that control the growth of both plants and animals, your work is done, and a grand work it is. You need not fear the result. Your pupils will love the country and will never consider leaving the farm. They will be happy, intelligent and prosperous farmers and housewives. Their homes will be centers of refinement and comfort.

1. Have confidence in yourself and in your subject. The subject is worthy; so approach it with earnestness and determination to make it an agent for uplifting and beautifying country and home life.

2. Teach agriculture as you would any other subject. Assign a lesson, see that pupils study it at home and in school, and make sure by questioning during recitation hour that the pupils have learned the cardinal facts of the lesson.

3. Do not, of course, waste the time of the pupils by requiring them to memorize the words of the book. See that each pupil has a book and that he or she studies the lesson; but also see to it that the pupil has mastered the lesson well enough to give it in his own words. His answers should smack of his own individuality. Try to lead each pupil to study this lesson with an eye on the book, but with an eye also on the field that he passes, on the insect that he hears, and on the plant that he sees.

4. Let some of your language lessons and composition subjects be drawn from your study of agriculture. This will quicken observation habits and will make the work of composition easier. Pupils do not dread writing so much when they are fairly familiar with the subjects on which they are required to write. Your work in composition can then, with advantage and comfort, be drawn from the practical subjects studied in agriculture. For instance, let the pupils write an account of one of the simple experiments performed in the school room, or give an account of the walk taken with the teacher to some neighboring wood or farm, or a little story of how bees carry pollen from flower to flower, or the points of difference between a beef and dairy cow. All these every-day subjects will appeal to the children, and they will write with more satisfaction to themselves, and with more confidence in their own powers. Moreover, this practice will teach them to watch more sharply in order that they may write with more ease.

Class Organization and Study.—1. If the school is ungraded, include in the class in agriculture all the boys and girls who are able to read the fourth reader. If the school is a graded one and has two or more teachers, let agriculture be taught in the fifth grade.

2. Encourage the members of the class to read over the lesson at home with their parents. They will in this way get the benefit of the practical experience of their parents, and at the same time they will interest their parents in a more scientific study of farming.

3. Do not rely on an oral teaching of the lesson without books.

A child ought to have his eyes to assist his ears. He cannot do his best work without a definite study of a definite lesson.

Teaching the Lesson.—1. Review the last lesson. The teacher can conduct this review by asking some pupil for a general summary of the last lesson, or by asking special questions that cover the facts in the lesson. This review ought, of course, to be brief, and ought to cover only the vital points.

2. After the review let the day's lesson be taken up earnestly, and with the aid of any object that will stimulate interest and awaken attention. These can be provided with very little trouble and no expense. One day you may use a handful of poor and a handful of good soil, and point out some of the differences. Another day a root, a flower, seed, a diseased plant, a pestilential weed, an ear of seed-corn, or any of a thousand and one objects that will suggest themselves from a study of the text.

It often happens that one of the pupils asks a question that the teacher does not know how to answer. Let the teacher be perfectly frank and admit that he does not know. At the same time let him say that he will take pleasure in finding a satisfactory answer, and let him be particular to ask the class to join in a search for the desired answer. Both the coöperation and the confidence will be helpful.

The teacher should remember that we have hundreds of agricultural experiment stations and scientific laboratories where men and women are at work trying to find answers to agricultural questions. Don't be surprised or embarrassed if a great many questions that you cannot answer are asked. Who can answer all the questions that a child can ask? The teacher can always write to the agricultural college and experiment station of his state for answer to difficult questions, or he can ask some good farmer.

There Should Be No Memorizing.—Do not ask pupils to memorize the text. Get them to answer questions and make all explanations in their own words. Much harm has been done to children by compelling them to commit lessons to memory in order that they may receive perfect marks.

A pupil who tells in his own words the main part of a lesson, though minor parts are unuttered, has had more true mental drill than his classmate who memorizes the lesson, but who will likely forget it in a short time. The latter learned to memorize the lesson but failed to learn to think. Agriculture must train to right thinking.

Written Work About the Lesson.—It will be desirable at times to

vary the plan of recitation. Let the pupil try his descriptive power by writing parts of the lesson.

The teacher may say, "After you have studied your lesson in agriculture to-day you may write for me, in your own words, a summary of a certain topic in the lesson, or an abstract of the whole lesson."

The teacher can write on the blackboard a few topics as a guide. After some drill, however, in this writing, the pupils will not need any guidance.

Experiments.—Experiments are a desirable feature of agricultural teaching. They serve:

1. To stimulate interest.
2. To quicken observation.
3. To lead to new thought and investigation.
4. To link old truths with new truths.

The teacher should bear in mind that his effort is not so much to help the pupil as it is to help the pupil to help himself. The secret of good teaching lies in following this cardinal principle.

Plan not to overdo the experiment side of teaching. You will not need an experiment for every day. An experiment each week will be sufficient or as often as convenient. You want the class to engage in this work. The teacher should help, but should let the members of the class prepare the material and conduct the experiments.

The teacher can, however, introduce new experiments when he finds one that appeals to him. Here is one, for example. The object of the experiment is to show how cultivation checks the evaporation of moisture from the soil. Take two lumps of loaf sugar. Place one lump on top of the other, on a saucer or on a plate. Slowly pour a little ink on a plate or in the saucer. The lower lump will quickly take up the ink by capillary attraction, and the whole lump will soon be saturated. The top lump will not get the ink until considerable time has elapsed, since the air spaces between the lumps check the upward flow.

Cultivation acts in the same way as the joints between the lumps. The cultivating tools break off the tops of the soil tubes that carry the water, and the dry dust acts as a mulch or blanket that keeps the water in.

Two Kinds of Experiments.—Not all experiments can or should be performed in school. The object of all experimentation is to stimulate the pupils' ambition to find out things and to do things for themselves. Therefore, the teacher will recognize two kinds of

experiments—the school experiment, and the home and vacation experiment.

The Pupils' Part.—Let the pupils freely ask questions. We often learn more by asking questions than we do from the answers. It is an excellent plan to require pupils to make a list of questions as a part of the preparation of the lesson. Let these questions include original interrogations as well as questions suggested by the book.

The teacher does not need to answer all the questions. Often the greatest good will result from letting the pupils find out answers. The teacher may make a list of his own questions, or a list from the questions asked by the pupils, or combine both.

These questions may be written on the blackboard or written by each pupil in his note-book. Considerable interest and profit will result from such questions.

Review the Work Frequently.—The teacher should be in no hurry to cover the text. Review frequently. In these reviews it is well, if possible, to present the lesson in a different form from that in which they are presented the first time. Hence, if the teacher will use a few minutes each day, and make out questions and state the topics of the lessons, the synopsis will be very helpful. Such an outline gives in an easily remembered form the vital facts of the lesson.

An Observation Walk.—It will be well occasionally to take your pupils for a walk in the neighborhood of your schoolhouse. There are always many things of interest to be seen by the pupils, and many a point of your lesson in agriculture can be enforced by an observation lesson in the field. Then, too, there is a good feeling of confidence established between teacher and pupil by this out-of-door comradeship.

Whom to Take.—In deciding whom to take you should consider the nature, purpose, and length of the walk. If it be a short walk, take your whole school. If a long walk for the special purpose of visiting some distant field, farm, meadow, or forest, take only those who are strong enough for the trip, and who are interested in the objects to be seen. In general there are walks of three kinds:

1. Short walks of general interest. Invite the whole school to go on these.
2. Walks of more strictly agricultural nature. On these it will be best to take only your pupils in agriculture.
3. A combination of the two. You will, of course, take the whole school on these combination walks.

When to Go.—Some of the walks may be made immediately after school, some at the noon hour. In other cases you should take fifteen, thirty, or forty-five minutes of your regular school time for this purpose; or you may go during the closing minutes of the noon hour or recess, and return fifteen or thirty minutes after the usual assembling time; or, you may dismiss school fifteen or thirty minutes earlier than usual and continue your walk as long as you deem wise. It should be made clear to the pupils that the walk is not a frolick or a recess; that they are really to learn something; that it is part of their school work.

What to Look For.—Let anything of interest claim your attention—a hibernating insect, an egg-laying butterfly, a leaf gnawing worm or bug. It will always be well for you to go over the ground in advance of your class and find some of the chief objects of interest. Keep all the children busy. If, for the moment, there be nothing of special interest, ask them to search for injurious insects, wild flowers, weeds in seed; to note leaves of various kinds of trees, bark of trees, cries and flight of various birds, etc. Let each walk also have some special object, such, for example, as the observation of the number of kinds of weeds to be found in the region traversed. As you walk you may also call the children's attention to any agricultural object-lesson you can. Ask such questions as these: Is the field cultivated too deep or too shallow? Which of these cotton plants is the better? Which would furnish the best seed for next year's crop? Are there any corn plants with no ears in this field? any with one ear? any with two ears? any with three ears? Which plant bears the most corn? Which will make the best seed-corn? What is the name of that weed over there? How many names can we give for it? Which do you think is the best name? Is it a bad weed? Why? Where does it grow? How long does it live? What kind of seeds has it? How does it spread? Does it make many seeds? Let us send a good specimen of it to our experiment station and find out what its real name is. Let us also gather seeds and plants too, and put both in our school collection.

Yes (in answer to a question), that is a cocoon. Bring it with you, and we shall put it in our breeding cage in the schoolroom and see what kind of moth will come from it. Is that cow fitted for making beef or milk? How much milk will she give daily? Is she a Jersey? How do you know? What is the matter with this apple? When did the worm get into it? What will become of the worm? Could this kind of injury be prevented?

After Use of the Walk.—"Our Walk" should be made the topic of

an essay or composition on the following day, or you may have a blackboard exercise by asking volunteers to tell what they learned or saw, and listing the items until you have secured an inventory of the mental accessions of the whole class. Make it a practice to clinch or fix the knowledge gained in a walk by some kind of a review the following day, or on your return to the school.

Final Words.—No matter how limited your instruction in agriculture may be, if it sets your pupils to thinking about the subject, if it starts them to reading about the business they are to follow, if it introduces them to plant and animal life for culture only, if it prepares them to be experimenters, if it makes them acquainted with the literature of farming, you have made their lives. This great power is in your hands. Who shall hinder you from using it?

C. W. BURKETT.

The Armour Scholarship Plan.

The wisdom of the party of agricultural educators and the committee of the International Live Stock Exposition, which evolved and decided upon the plan for awarding the scholarships available from J. Ogden Armour's generous donation of \$5000 for the purpose of giving deserving young men agricultural educations needs no explanation—it is evident.

First of all is the admirable modesty of the committee first appointed to devise the plan. Composed, as it was, of three men amply competent to have decided upon a good plan without delay, they did not assume the independent, know-it-all position that is taken by many who are appointed for such work. They believed that consultation with the leading agricultural educators of America should bring forth the plan which would most completely and satisfactorily fill the bill.

It was worked out that way and the plan that was evolved and which was given in substance in Saturday's edition of the *Drovers Journal* and is found in detail in to-day's issue is one which will without doubt be accorded universal commendation by all who are interested in such educational matters.

The initial portion of the plan, that of making the first seven scholarships available to the colleges that put the best judging teams into the competition, is a valuable foundation for the plan. Live-stock and grain judging are among the chief essentials in agricultural education. Therefore, the colleges that are doing best work in these lines and can demonstrate it in contest are the colleges which are the very desirable ones for giving the young men most valuable agricultural educations.

In the distribution of the thirteen remaining scholarships the plan of making the basis of this the cash prizes won by the various colleges in the open classes at the International Live Stock Exposition is one that seems equally desirable. There is in this provision a restriction excluding the money won on the grain and forage exhibit, which may be questioned by many as a bit biased in favor of the colleges that can produce best results in the matter of live-stock exhibits. But, as the International is a live-stock exposition and one at which all states can well afford to make a display of live stock, if they cannot afford to get together an exhibit of grains and forage crops, it seems wholly equitable that the competition should be based on live-stock exhibits.

There is no question that the equity of this plan was thoroughly discussed by educators and officials of the International in conference, and that this was the conclusion most generally favored.

The competition feature is therefore regarded as a splendid one throughout, and as one and more of the leading educators present put it: "The spectacle of well-to-do agricultural students in a struggle in which the world is watching results, to win for their home college the greatest number of scholarships possible for the benefit of boys of limited means, is an inspiring one—one which is calculated to induce greater patriotism and loyalty to the home college."

It is a fine setting for the valuable gift that Mr. Armour has made to the poor young men of this country who are striving to better their own condition.

The official report of the International Exposition committee on the meeting between the educators from the leading agricultural colleges and the committee, held last Friday, is as follows: The board of directors of the International Live Stock Exposition in their annual meeting held Thursday, October 18, upon accepting the \$5000 annual scholarship award offered by J. Ogden Armour, appointed a committee consisting of Mr. Leonard, Mr. Sanders and Mr. Ogilvie, to meet with the deans of the agricultural colleges to arrange details concerning the distribution of these scholarship awards to be made at the 1907 exposition. The committee issued a call to the deans for a meeting to be held Friday, November 2, in the rooms of the Saddle and Sirloin club, Union Stock Yards, Chicago. This meeting was attended by Professor Wilson of South Dakota, Professor Nichols of Kansas, Professor Kinzer of Kansas, Professor Plumb of Ohio, Professor Dalrymple of Louisiana, Professor Wing of Cornell, Professor Boss of Minnesota, Professor Skinner of Purdue, Professor Humphrey of Wisconsin, Professor

Mumford of Illinois, Professor Curtiss of Iowa, Mr. Ogilvie, Mr. Leonard and Mr. Skinner, showing a wide interest taken by the colleges in the generous scholarship fund to be presented by Mr. Armour.

In addition to those present there were letters from the deans of fourteen other colleges stating their inability to attend to present their views upon the subject.

The discussion, which was participated in by all, brought about the following plan of distribution, the scholarships to be divided among the colleges whose teams do the most efficient work in the students' judging contest as follows: For the best work on horses, one; cattle, one; sheep, one; hogs, one; corn, one; grains and feed and forage exhibit, one; and the college whose teams do the most efficient work in all of the classes, one, thus providing for seven of the scholarships. It was then agreed to distribute the remaining thirteen scholarships on the basis of cash prizes won by the colleges in the open classes for International Exposition money only, and the money of the Exposition that is won on the grain and forage exhibit not to be counted in this item. It was then agreed to restrict the number of scholarships that any one school could be allotted to forty per cent of the whole.—*Chicago Drovers Journal*.

Milking Machines.

Prof. Oscar Erf, of the Dairy Department, has prepared a pamphlet on "Milking Machines." It will be mailed to our patrons as Bulletin No. 140 of the Experiment Station and will be sent out in a short time. The pamphlet contains a history of the machines, excerpted from the records of the United States patent office, together with full-plate photo-engravings of the different patent right plates. In his introductory remarks the professor justifies the publication by saying: "Owing to the great progress that has been made in the dairy industry within the last few years, there has come such a great demand for milkers that dairymen are unable to secure them at a compensation that will allow a fair margin of profit. The confinement and nature of the work frequently make milkers discontented and cause them to seek other work which perhaps is more pleasant to them. With this condition—one of the greatest drawbacks in the dairy business—it is quite essential for many western dairymen either to discontinue the dairy business or to secure an apparatus that will do the milking, for this seems to be the most objectionable part of the dairy business."

THE INDUSTRIALIST

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Local Notes.

Engineer Jacob Lund is busy laying steam mains to the new Horticultural Hall.

The north door of the fire-engine room in Anderson Hall has received a new cement approach this week.

The sub-freshmen held their fall-term party in the girls' gymnasium last Monday night and had a grand time.

The Sunday *Kansas City Star* contains an illustrated "write up" of the Domestic Science Department of this College.

The sophomore party held Monday evening at Kedzie Hall was well attended. Ice-cream and nabiscos were served.

Professor Popenoe is absent this week inspecting the orchards and forest plantations of Reno and surrounding counties.

Professor Willard went to Junction City last Wednesday to give expert testimony in a liquor case before the district court.

Professor W. A. McKeever is booked for an address before the State Teachers' Association, on "The Boy with a Cigarette."

The INDUSTRIALIST congratulates Mr. and Mrs. Chas. Yost, of the Heat and Power Department, on their "recent" ten-pound boy.

The Rooters' Club entertained the members of the Ottawa football team with a banquet at the Manhattan Candy Kitchen Monday evening.

The second number of the College lecture course was delivered Friday of last week by Geo. R. Wendling, who spoke on "Unseen Realities."

The College football team defeated the Ottawa University team on Monday afternoon, in the Manhattan athletic field, by a score of 32 to 11.

The first lot of the new books ordered by the Faculty this fall have arrived in the Library and are being catalogued. We shall publish a list of the most valuable additions before long.

The Hamilton Literary Society will hold an old-fashioned spelling bee in the gymnasium to-night (Saturday). They have invited the whole student body to take part in the contest and are expecting a lively time.

Professor Walters has received an order from the Western States Cement Works, of Independence, Kan., to model, or find a student who might model, a large exhibition tablet representing "Kansas Cement."

Senior student Brinkman, of the architectural course, has recently completed drawings and specifications for a new residence for Mrs. Chas. Tegmeier. The building will be erected on the southeast corner of Fourth and Houston streets.

The museum has lately been enriched by a collection of seed weevils. The exhibit contains a number of specimens of seeds showing the mode of injury by the insect and is illustrated by several greatly enlarged drawings by Miss Weeks.

Reverend Gelvin, for several years pastor of the Manhattan Presbyterian church, was present at chapel exercises on Tuesday morning and on request made a few parting remarks from the rostrum. He moves to Lancaster, Ohio, this week, where he has accepted a pastorate.

Mr. M. Scott, of Marysville, Kan., has recently purchased the Foresman place, on College Hill, to provide a home for his children who are attending College. The local editor has known Mr. Scott for a third of a century and welcomes him in the College settlement "on the Hill."

The ex-Ionians met with Miss Ada Rice Monday night and installed the new officers. It was decided to take up the discussion of "Travels" for this winter's work and Miss Margaret Minis started it by taking those present on a trip and going as far as Rotterdam, Holland.—*Republic*.

A movement is on foot to form a basket-ball league of all the large colleges in the State. Everybody heard from so far is in favor of it. General Manager Dean, of this College, says it will undoubtedly be formed. The plan is to have each team play a game on each of its opponents' grounds.

President Nichols of the College and Director Burkett of the Experiment Station were absent this week attending the annual meeting of the Association of Agricultural Colleges and Experiment Stations at Baton Rouge, La. They expect to return next Wednesday. The President is accompanied by Mrs. Nichols and Master Rae Nichols.

The sound of the carpenter's hammer is heard all over town and new cottages are being started nearly every day. Mechanics are scarcer than they have been at any time the last dozen years. We expected last summer that with the first of November building operations would slacken, but it seems that there is more work just now than ever before.

Dr. J. Hoch, of Berlin, Germany, an agricultural expert visiting the United States in the interest of the German government, spent the greater part of the week here, examining our methods of farming and dairying. He was greatly interested in our farm machinery and pronounced it far above that of his country. The milking machine and the consequences of its introduction claimed a good share of his attention. Professor Erf piloted him through the buildings, cattle yards and experimental plots and explained to him the aims and methods of the inspected work.

The zoölogical museum has recently acquired a very valuable lot of mounted birds as a gift from Dr. C. P. Blachly, of Manhattan. The collection consists of more than one hundred specimens, nearly all taken in the vicinity of the College. They were mounted by Doctor Blachly himself in his leisure hours during the many years he has been a resident of this city. Some of the birds are rare prizes, and taken all together they form a valued addition to the museum. For lack of time they have not yet been permanently installed in the museum, but some of the birds have been temporarily placed in the north wall-case on the first floor.

The new Horticultural Hall is progressing very slowly. This week there were only half a dozen men at work, all told. We are very much in need of the additional class rooms and laboratories which the building will provide, and can not get along next term without them. In addition to the finishing of the inside, which lacks several hundred days work, there is much other work to do which is not included in the main contract. The heating and electric wiring is yet to be added and the furniture to be installed. The Departments of Botany and Horticulture will have to be moved over from their present quarters. Walks will have to be built. In short, it will require a constant effort from date to get things in shape, and all parties concerned are in hopes that the contractor will push the job before it is too late to make up lost time.

The excursion over the Union Pacific railroad from Saline and Dickinson counties last Saturday brought about 800 happy people to the College. They arrived at the gate just before noon, ate their lunch dinners among the tree groups of the campus, strolled through the buildings, listened to a concert given for their benefit in the Auditorium by Prof. R. H. Brown's band, visited the museum, shops and laboratories, and inspected the cattle yards and poultry runs. All seemed to interest and enjoy themselves. At 3 o'clock the second team of the College played a game of football with the Dickinson county high-school boys, which was attended by a large number of the visitors. Our boys won an easy victory over the Chapman boys, the score being 30 to 0, but the visitors took their defeat in good humor. These excursions are a good thing for the visited as well as for the visitors. There has been a number of them during the past year and there should be more in the future.

Alumni and Former Students.

Milo M. Hastings, '06, has an article in the November number of the *Metropolitan and Rural Home*, entitled "Eating for Health and Strength." The article is very sensibly written and is especially adapted to farm conditions.

M. M. Davis and Miss Louise Spohr ['99], proprietors of the Park View hospital, are making preparations to erect a new hospital building in the near future. They have two or three favorable building sites in view, but have not yet selected one.—*Mercury*.

W. B. Thurston, '06, had been appointed assistant in dairying in the Maryland Agricultural College.

W. E. Watkins, ['06], better known as "Squire," has secured a position as superintendent of a creamery in Butte, Mont. He has gone for a visit with home folks before taking up his new work.—*Mercury*.

Mr. and Mrs. Fred Myers, of South Pasadena, Cal., are the parents of a son, born October 26. The young heir has been named James Henry. Mrs. Myers will be remembered by many friends here as Miss Edith Perkins, who graduated from the K. S. A. C. in 1900.—*Mercury*.

Dr. J. W. Joss [junior, 1903], who has been practicing at Fairview, Kan., was recently appointed a United States veterinary inspector in the Bureau of Animal Industry and is now stationed at Kansas City. Doctor Joss is a very worthy man and we are much pleased to note this recognition of his ability.—*Nationalist*.

Edith Goodwin, '03, came down with the excursionists from Dickinson county last Saturday. Her work as a teacher in the Dickinson County High School she finds very pleasant, as she now has little excepting sciences to teach. Her loyalty to the College is shown at every opportunity, and many students are turned this way by her.

The Smiths received a business letter last week from George A. Gale ['76], of West Palm Beach, Fla., in which it was stated that Wm. H. Sanders ['90] arrived at his home in Miami, Fla., on October 20, after being shipwrecked and floating adrift on a piece of wreckage for sixteen hours. Mr. Sanders' wife was formerly Miss Hattie L. Gale ['89], of this city, a daughter of Professor Gale, who lived at the east College gate. She will be well remembered here by a great many of our older residents.—*Mercury*.

F. C. Burtis, '91, has resigned his position as professor of animal and dairy husbandry in the Oklahoma Agricultural and Mechanical College and has located at Muskogee, I. T. He is general manager, secretary and treasurer of the Arkansas Valley Shipping Association, in which he has purchased a controlling interest. The company does business in car-load lots for the most part, but expects to develop the seed branch as much as possible, dealing only in improved strains. Professor Burtis's energy, experience and common sense should insure him success in this enterprise.

Barton R. Thompson and Miss Helen Nudson were married Monday noon at the bride's home in Garrison. They left on the 1:35 train for Kansas City and from there went to Columbia, Mo., where Mr. Thompson has a position in the University of Missouri as assistant in the dairy department. The groom is a graduate of the K. S. A. C., class of 1900. The bride is a very popular young lady in the community in which she lived and will be greatly missed, especially in church circles. Both Mr. and Mrs. Thompson have a great many friends in the county who heartily wish them well.—*Mercury*.

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# THE INDUSTRIALIST.

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## *Denatured Alcohol.*

The passage of the law providing for denaturing alcohol and freeing it from the burden of internal revenue tax has raised widespread interest. Inquiries concerning the manufacture of denatured alcohol are numerous, and the general tenor of the letters shows much lack of understanding on the subject. In view of this interest and lack of knowledge an article on the subject would seem to be timely.

In the production of denatured alcohol ordinary alcohol must be made first, though many have the impression that the manufacture of the two forms is totally different. Denatured alcohol is merely common alcohol to which some substance or substances have been added that are designed to prevent its use as a beverage or in the compounding of medicines. The substances used in denaturing are various and depend upon the purpose to which the denatured product is to be put. One of the commonest agents for denaturing is crude wood alcohol often called wood naphtha. This is obtained by heating wood in closed retorts and purifying to a certain extent the liquor which distils off. It still contains creosote and other substances that give it a very offensive taste and odor. In Great Britain alcohol is denatured by the addition of 10 per cent of wood alcohol. The product is known as methylated spirit, and is suitable for many uses. However, for some chemical purposes the wood alcohol is quite inadmissible. Such alcohol would be available for use in lamps for heating and illumination, and in many other cases. Practically all of the industries which now use methyl alcohol or wood alcohol can use methylated spirit to advantage. This fact led the manufacturers of wood alcohol to oppose the act providing for tax-free denatured alcohol. The demand for their product for its present uses will naturally diminish, but with the development of industries using alcohol denatured by wood alcohol it is highly probable that the demand for wood alcohol will ultimately be as great for denaturing as it is now for other purposes.

Several other substances are used in denaturing alcohol.



Among these is mineral naphtha, a substance obtained from petroleum and similar to gasoline. When fresh bones are heated in closed retorts a highly offensive distillate is obtained from which Dippel's animal oil is separated. This contains a number of chemical substances known as pyridine bases. In Germany complete denaturing is accomplished by mixing one part of pyridine bases and four parts of wood naphtha with 200 of alcohol. Spirit thus denatured is what is used for domestic purposes—heating, lighting and cooking. It is not as suitable for industrial purposes. Another means of completely denaturing used in Germany consists in adding only one-half as much of the denaturing agents just named together with one-half a part of a solution of methyl-violet dye, and benzol in quantities ranging from two to twenty liters to 100 liters of spirit. This mixture is largely used in motor, and agricultural engines, the presence of the benzol facilitating its use for this purpose. For partial denaturing one-half liter of pyridine bases may be used with 100 liters of alcohol. Sulphuric ether, benzol or turpentine may also be used, and these are the materials usually employed where the alcohol is to be used in preparing coal-tar colors and other chemicals. Many other substances have been used. Before the law goes into effect in this country the Treasury Department will issue regulations concerning the denaturing agents that will be recognized in this country.

From the preceding it will be seen that denatured alcohol requires first, ordinary alcohol. The manufacture then of denatured alcohol resolves itself into a question of the manufacture of common alcohol, with the simple addition of the denaturents. Since alcohol is freed from internal revenue tax only after denaturing it is obvious that the entire process of manufacturing alcohol for the purpose of denaturing, denaturing the product, and marketing it, must be under supervision of the internal revenue officers. From this it will be seen that it will be quite impracticable for the farmer to manufacture his own alcohol, as it would be impossible for the Government to provide inspection service for a plant conducted on so small a scale. Furthermore, the production of alcohol is carried on with the greatest economy only on a fairly large scale. Just what the minimum capacity for profitable operation would be cannot perhaps be stated, but the well-known tendency to concentration in all manufacturing operations in order to secure the greatest economy in production applies with as much force to distilling alcohol as to anything. It is possible that smaller plants may be economically operated in order to utilize certain raw

materials of little value for anything else and which cannot be profitably transported.

In considering the possibilities of alcohol manufacture one must be familiar with the chemical sources of it. Alcohol is not present in the raw materials from which it is manufactured, but is produced by a succession of chemical changes from sugars or starch. The possible value of any raw material for the manufacture of alcohol therefore depends on the amount of sugars and starch which it contains. One of the cheapest sources is molasses from which as much sugar as possible has been crystallized, the syrup remaining containing such quantities of distasteful substances that it cannot be utilized for food. It is reported that alcohol is being manufactured from this material in Cuba at a cost of ten cents a gallon, and that two gallons of this molasses will make a gallon or more of 90 per cent alcohol. This will probably be an important source of denatured alcohol as it is said to be delivered at seaboard ports for about three cents a gallon. Similar molasses is produced in the manufacture of sugar-beets, and this outlet for beet-sugar molasses should aid the development of that industry.

In producing alcohol from starch this must first be converted into sugar. This is accomplished in distilleries and breweries by means of malt. When any grain sprouts, whether in the brewery or in the field, there is developed in it a peculiar chemical substance known as diastase. This acts on the starch present and transforms it by a succession of steps into maltose or malt sugar. The diastase produced in the grain is able to transform not only the starch of the grain in which it is produced but very much in addition. In the manufacture of alcohol, therefore, grain, usually barley, that has been sprouted to develop the diastase, is ground and mixed with considerable amounts of starch from other sources, the whole being stirred up with water. The diastase transforms all of the starch into maltose, which dissolves. The water solution so obtained is fermented by yeast, and common alcohol, carbon dioxide and a number of other substances are produced. In the fermentation of molasses the treatment with diastase is not required. The molasses is diluted with water and fermented by yeast.

The dilute alcoholic liquor obtained by fermentation requires concentration by distillation, and as the boiling points of alcohol and water are not far apart the separation of alcohol from water is accomplished successfully only by the use of highly specialized forms of apparatus known as column stills and rectifiers. This apparatus is expensive and is operated most economically on the large scale.



There are many waste or cheap materials that contain considerable quantities of sugar or starch. Among these are corn stalks. Whether in this case the starch and sugar can be utilized in alcohol production is problematical. Sugar beets can be used, and possibly those not suitable for sugar manufacture would be available for alcohol production. It is highly probable that waste products of various industries might be utilized in this way. The Iowa Experiment Station is reported to have found that remunerative quantities of alcohol may be obtained from the carbohydrates of green cobs accumulated in connection with the canning of corn.

In Germany the chief source of alcohol is the starch of potatoes. Not only may potatoes inferior in size be thus utilized, but varieties especially rich in starch have been bred and are grown expressly for alcohol manufacture. Potatoes contain from 14 to 20 per cent of substances directly or indirectly fermentable, and about 14 pounds of the fermentable substance is said to be required for a gallon of 94 per cent alcohol. It will be seen that from 70 to 100 pounds of potatoes would be required for the production of a gallon of 94 per cent alcohol.

In this country corn is at present the cheapest source of starch. Corn contains about 70 per cent of substances capable of fermentation with the production of alcohol. If the starch could be completely fermented to alcohol and carbon dioxide, only 11 pounds would be required for a gallon of alcohol; 2.8 gallons would, under those conditions, therefore, be obtainable from the average bushel of corn. It was stated before the committee on Ways and Means of the House of Representatives that a little more than 2.5 gallons of 90 per cent alcohol, equivalent to 2.4 gallons of 94 per cent alcohol, can be produced from a bushel of corn. At 40 cents a bushel, the cost of corn for a gallon of alcohol would be about 16 cents. In the manufacture of alcohol, by-products are obtained that would partly pay for the other expenses of manufacture, interest on capital invested, wear and tear, so that it is estimated that with corn at 35 to 40 cents a bushel alcohol should be sold at a profit for 20 cents per gallon.

In considering the possibilities of manufacturing alcohol for denaturing it should be borne in mind that materials may be used of inferior quality which would give a taste or odor to alcohol that would be objectionable for many purposes but which would be no drawback where other still more offensive substances are to be added. In another article the uses to which denatured alcohol may be put and some comparisons with other materials now in use will be made.

J. T. WILLARD.

### ***Training Kansas Veterinarians.***

A correspondent in the *Kansas Farmer* makes the following pertinent remarks concerning the needs of the newly organized course in veterinary science at this College:

"With the great development of our agricultural and live-stock interests there seems to be, either from carelessness or negligence on the part of the people, or from outside causes, a great increase in diseases of farm animals. When we consider the money value of the live-stock interests of Kansas, it is not surprising that farmers are calling for trained veterinarians. For many years the Kansas Agricultural College offered an elementary course principally for the benefit of the agricultural students who returned to the farm, a course simply to give certain elementary instruction in the general care of farm animals. So many of the students who received this elementary instruction kept going elsewhere for a complete veterinary course, that a little more than a year ago the Regents added a regular four-years' course, establishing a veterinary school at the Agricultural College. Seventy-eight students are now enrolled in that course and four trained veterinarians are giving instruction. The head of the department, Doctor Schoenleber, is by law *ex officio* State veterinarian. He has three assistants now and will have a fourth in January. It may be well to note that these men do not spend all their time in the strictly veterinary work, but are teachers of bacteriology and physiology for other courses in the College.

"Already there has been built up a very large practice, both in hospital work and in field work, but the limited facilities make it very difficult for the department to grow very much more or do all the work that the instructors ought to do. The department is now confined to the use of one lecture room, one small museum, and one small laboratory. While crowded all the time with clinical work, sometimes as many as twelve animals being in the yard at a time for treatment, there is no operating room, no good facilities for dissecting animals or training the students in that work.

"It is a safe estimate to say that 150 young men from Kansas are now attending veterinary colleges outside of the State, paying an average of \$100 a year tuition and spending an average of \$6 per week for other expenses. This means a very large sum of money paid out by men who may be tempted to go elsewhere, who, if educated here in the State, would be inclined to remain here and go out into country practice, where they are greatly needed. It seems a simple problem in home economics for Kansas to properly equip its own veterinary school and keep these 150 students within the



State for their training. The one thing necessary before this can be done is a veterinary building, a building planned for this work and properly equipped. Such a building could be erected at Manhattan for about \$75,000, and this would mean \$100,000 anywhere else, as the past history of public buildings proves. Very little more would be required to conduct a school for 150 students in a proper building than for 75 students as they are now cared for. This is a matter that the Kansas farmers need to take into consideration at once."

### ***College Needs and a Comparison.***

In the forthcoming biennial report of the Agricultural College the Board of Regents present the following expense estimates for the biennial period of 1907-'09:

|                                             | 1908.     | 1909.     |
|---------------------------------------------|-----------|-----------|
| Current expenses .....                      | \$140,000 | \$155,000 |
| Domestic Science building and equipment.... | 35,000    | 35,000    |
| Veterinary building and equipment.....      | 35,000    | 35,000    |
| Engineering building and shop addition....  | 50,000    | 30,000    |
| Engineering equipment.....                  | .....     | 25,000    |
| Barn and judging room.....                  | 25,000    | .....     |
| Boilers and coal house.....                 | 5,000     | 5,000     |
| Library stacks .....                        | 4,000     | .....     |
| Armory and gymnasium .....                  | 35,000    | 30,000    |
| Cement walks .....                          | 4,000     | .....     |
| Farmers' institutes.....                    | 7,500     | 7,500     |
| Five stokers.....                           | .....     | 3,000     |
| Pipe machine.....                           | 1,500     | .....     |
| Totals.....                                 | \$345,000 | \$325,500 |

With regard to the cost to the State, per student, the report gives the following interesting comparison for the past biennial period:

|                    | Students. | Instructors. | Income.   | Cost. |
|--------------------|-----------|--------------|-----------|-------|
| Kansas.....        | 1144      | 55           | \$118,927 | \$104 |
| Iowa .....         | 1181      | 72           | 203,773   | 173   |
| Indiana .....      | 1002      | 77           | 178,549   | 178   |
| Michigan.....      | 643       | 51           | 173,406   | 270   |
| Pennsylvania ..... | 479       | 49           | 128,406   | 268   |
| N. Dakota.....     | 457       | 24           | 71,549    | 157   |
| S. Dakota.....     | 430       | 27           | 69,614    | 162   |
| Colorado.....      | 388       | 32           | 89,680    | 231   |
| Oklahoma.....      | 830       | 19           | 43,902    | 133   |
| Average .....      | 673       | 45           | \$119,759 | \$186 |

This table shows that the expense to the State per student is only \$104, or \$82 less than the average in the nine sister institutions and \$166 less than that in Michigan. It is less than one-half that of three of the nine states, and less than two-thirds of that of North Dakota, which stands second lowest in the list with regard to cost per student. Surely the legislature of Kansas should not complain when looking at these figures.

***Poultry at the Kansas State Agricultural College.***

The experiments that have been carried on at the Kansas State Agricultural College within the past few years in all departments have been of great value to the State. The work with poultry is rather new, and in fact is not yet made by the authorities a regular department. The work done, however, has been so valuable that the Regents have each year practically doubled the appropriation, so that this year considerable valuable work is expected. A very practical man has been employed to give his whole time to the poultry work, and to give immediate attention to all experiments. The whole is under the supervision, however, of Prof. Oscar Erf, of the Dairy Husbandry Department, with Mr. W. A. Lamb, the assistant, in charge.

Some very important experiments are now in progress, and others are to be taken up soon. Possibly the one now being carried on promising the most interesting results is a feeding test for finding (*a*) which combination is most profitable to feed, (*b*) to find which combination is the best for egg-production. Six different pens are in this test, and the feeds are as follows: Pen 1, beef scraps and corn; pen 2, casein (dried milk) and corn; pen 3, wheat, chops, casein, and corn; pen 4, wheat and corn; pen 5, millet and corn; pen 6, beef scraps and Kafir-corn. This experiment will end February 1, 1907, and by March 1 the report will be ready for publication.

Another test is with five pens of different breeds being fed the same feed, to determine which breed is the most profitable for egg-production. Of course it may not be safe for the experimenters ever to publish any results on this, as their lives might be in danger.

Another very interesting experiment has been under way for some time to determine how long a male will influence the offspring from hens. To make this test a White Brahma rooster was put in a pen with White Leghorn hens, left with them for four weeks, and then the hens were left without a male in the pen for twenty days, when a White Rock rooster was put in the pen. Ten days after this sixteen eggs were set, and five chicks of the sixteen showed plainly the marks of the White Brahma breed, while the others showed marks of the White Rocks. Eggs that were set one day later and two days later produced chicks with no marks of the Brahmas.

Another test which is being carried out here, as at many other stations, is to determine how long the eggs will be fertile after the male has been removed from the pen.



# THE INDUSTRIALIST

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## Kansas State Agricultural College

Manhattan, Kansas.

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### Local Notes.

Supt. J. D. Rickman went to Kansas City on business last Saturday.

Professor and Mrs. Kammeyer are the happy parents of a "new" girl.

Two new power Omega cream separators were set up in the separator room of the Dairy Department, last week.

The College exhibited twenty-five varieties of chickens and a cage of pheasants at the Manhattan poultry show last week.

Prof. B. L. Remick and F. E. Wahl have put in a cement sidewalk along the east side of their residences on Seventh street.

The last football game of the season will be played in the home athletic field on November 27, against the Soldier team from Fort Riley.

The large judging arena at the stone barn has been fitted with steam heat and will be reseated and painted before the opening of the winter term.

Mr. Scheffer is preparing a paper for the meeting of the State Teachers' Association at Topeka during the Christmas holidays. His subject will be along the line of primary agriculture.

The winter term short courses in agriculture and dairying will begin January 8, 1907, and last ten weeks. For any information regarding them address Pres. E. R. Nichols, of the College.

The College football team went to Lincoln, Neb., last Saturday to witness the K. U.-N. U. game. The Athletic Association footed the bills.

The November number of the College *Jayhawker* is a typographical beauty and "jug full" of interesting news items and correspondences.

President Nichols went to Topeka on Wednesday to confer with the State Auditor concerning the needs of the College for the ensuing biennial period.

The victory of the College over the State University on the gridiron yesterday brought forth an enthusiasm among our students and the citizens that was without parallel in the history of the institution; all the more because it had been a clean game from start to finish. The streets were thronged in the evening with shouting students, a bonfire was lighted, the College bell rang, speeches were made—all felt that it was a famous victory. The attendance at the game was over 1500.

The Architectural Department has received a number of new historical maps.

Fall term will close on Friday, December 21, and winter term will open Tuesday, January 8.

The unmarried lady members of the Faculty were entertained Monday evening by Miss Margaret Minis and Miss Ada Rice, at the home of the former, 501 Moro street.

The Franklin Literary Society gave a special program in the Old Chapel, Saturday evening, to a good house. A short play "The Obstinate Family," closed the session.

The football game between this College and the State University last Friday in the Manhattan Athletic Park was well attended, both by students and the citizens. It resulted in a score of 6 to 4 in favor of K. S. A. C.

The spelling bee given by the Hamilton Literary Society last Saturday evening was well attended. The losing side paid a penalty in the form of an oyster supper at the Coöperative Dining Hall after the contest.

The swine breeders of Kansas show their appreciation of the value of the College herd of swine by the fact that they have purchased over seven hundred dollars worth of pure-bred males from the Department of Animal Husbandry this fall.

The Faculty has granted an extension of Thanksgiving day vacation to the end of the week. This will give students who wish to go home to eat turkey and perhaps replenish their "larder" a chance to be absent from College for five days.

The cross-country run from the Athletic Park around the College water-tank and back, was won by G. Purdy in 10 min., 39½ sec. H. E. Cate finished second, G. E. Whipple third, D. Purdy fourth, John Tinkham fifth. The distance is calculated at over one and one-half miles.

President Nichols and family and Director Burkett, of the Experiment Station, returned Tuesday from their trip to Baton Rouge, where they attended the annual meeting of the Association of American Agricultural Colleges and Experiment Stations. They report a good meeting and a pleasant trip.

The annual meeting of the Kansas Academy of Science will be held in Topeka during Thanksgiving recess. The College will be represented by a strong delegation of professors and instructors from the science departments. Professor Willard will read a paper on "A test for Artificial Bleaching of Flour."

The following is a corrected program for the College lecture course: December 7, Carter, Master Magician; January 11, Bohumir Kryl Concert Company; January 29, John B. DeMotte, lecture; February 22, Rufus Everson King, lecture; March 12, The Manning Glee Club, concert; April —, U. S. Senator Benjamin Tillman.



The Shawnee county students here have formed a county club, with the intention of holding a social meeting once a month. Such clubs, some of them having from ten to forty members, have existed for years and have been a proper means for helpful social intercourse. The students from Marshall, McPherson, Geary, Clay, Pottawatomie and other counties are holding such meetings at stated times this fall term.

The College Experiment Station stock will be shipped to the Chicago International Life Stock Show this (Saturday) evening to be returned after the close of the show. The exhibit consists of four pure-bred Shorthorn steers, three grade Shorthorns, one pure-bred Hereford, one pure-bred Angus, and one grade Angus. Herdsman George Portius will accompany the shipment. Professors Kinzer and Wheeler will follow next week.

The Locke Insulator Manufacturing Company, of Victor, N. Y., has recently sent to Prof. B. F. Eyer several insulators used for carrying high potential currents. They will be used in connection with the new 60,000-volt transformer which will soon be received by the Electrical Engineering Department. The insulators were sent at the suggestion of Geo. T. Fielding, Jr., '03, who is with the General Electric Company, at Schenectady, N. Y.—*Herald*.

The poultry show, held in this city November 16 and 17, was not a success financially, but was a good show nevertheless. The College made a display of thirty-five varieties of poultry, consisting of 159 chickens, which paid one-fourth the show expenses. The attendance was small, being about eighty paid admissions, probably owing to a lack of advertising. A poultry show in Manhattan ought to draw 500 door fees, and probably would if rightly advertised. There were about 350 birds on exhibition.—*Mercury*.

Gertrude (Williams) Lundgren, 428 South Garfield Avenue, Burlington, Ia., director of physical training here in 1901, writes her appreciation of the INDUSTRIALIST and of her continued interest in this institution and her former pupils and associates. She is teaching five classes in physical training in connection with the Y. W. C. A. of that city, and has private pupils besides. Once a week she goes to New London, Ia., to instruct a class of nearly fifty. Her little boy, Warren, now over three years old, she says is the liveliest little boy she ever saw, and altogether she is kept very busy.

The Agricultural College will hold a State Farmers' Institute at the College from December 27, 1906, to January 5, 1907. The program has not been fully worked out as yet, but it is the intention to devote it chiefly to stock, stock judging, corn and corn judging. The meetings will be open to all and there will be no fee of any kind. Board may be had at very reasonable rate in the many student boarding houses in the vicinity of the College. There will be a fine exhibit of draft horses and beef cattle, also daily exhibitions of the milking and dairy machinery at work. For further information address President Nichols.

The old east wing of the stone barn will be remodeled by the Animal Husbandry and Chemistry Departments and used as a laboratory for carrying on digestion experiments with all classes of live stock.

The College will be represented in the students judging contest at the Chicago International Stock Show by the following senior students of the agricultural course: W. S. Gernert, J. O. Olsen, Clarence Lambert, E. G. Shafer, and J. B. Williams. The team will compete for the trophies and prizes offered by the International Show Association. A trophy will be given to the college whose team will make the highest average in horse judging. Another is offered for the best average made by the college that makes the best average in judging cattle, sheep, and swine. There are also eight cash prizes offered to the individual students making the highest average in the judging of all classes of stock. The prizes range from ten to seventy dollars. The five thousand dollar Armour scholarship prizes will not be available till next year.

A corn-growing contest for the boys will be held in Commercial Club Hall, Manhattan, Saturday, December 8, 1906, in connection with the farmers' institute. All the boys in the contest are expected to exhibit ten ears of corn, the quality of which will be judged Saturday, during the forenoon session. The corn should be on exhibition by 10 o'clock. If it is more convenient to send the corn on previous days, Mr. Fielding has kindly consented to store it in his feed house. Winners in the county contest may enter the State contest. All of the boys, as well as the farmers and their families and the public in general, should make it a point to attend. Arrangements have not yet been completed, but a good program is being prepared. Professor TenEyck will lecture on "Corn Breeding." It will be a farmers' institute, and a permanent organization will doubtless be made to hold meetings annually throughout the county. Come and receive the benefit. Program will be given next week.—*Mercury*.

### ***Alumni and Former Students.***

"Gladys" is the name of the little daughter born November 17 to Alice (Perry) Hill, '03, and husband, of Fayette, Mo.

V. M. Emmert, '01, has sold the home farm at Marysville and is now looking for a location for a stock and grain farm. He passed through Manhattan on the 20th enroute to Oklahoma.

F. A. Dawley, '95, has recently attracted much attention by paying three thousand dollars for the Poland China hog, "Grand Chief." He has recently made a very successful sale of fine stock from his yards.

V. L. Cory, '04, has closed up the work for the fall at the coöperative station at McPherson and for the next few months will be in the office of Grain Investigations, Bureau of Plant Industry, Washington, D. C.



John Frost, '92, is secretary of the Marshall county farmers' institute.

Cyrus Creighton, short course '06, is building up a fine herd of short-horn cattle. He was elected secretary of the Washington county farmers' institute.

Laura G. Day, '93, director of manual training in the Stout Manual Training School at Menomonie, Wis., is keeping house this winter and enjoying it immensely. Wilhelmina Spohr, '97, is with her, and they feel quite like a family.

O. N. Blair, '04, 484 East 17th street, Portland, Ore., is employed in the drafting room of the Portland Railway, Light and Power Company, and is well pleased with his position. He has been enjoying the West for about two months and believes it to be a good country for a young man.

At a recent farmers' institute at Plainville, Prof. Albert Dickens, '93, found G. O. Greene, '00, Alice (Worley) Greene, and their baby, Ogden Greene, royal entertainers. Mr. Greene, while doing a prosperous mercantile business, manifests a residual interest in horticulture by producing a fine lawn.

Changes of address: Jennie (Smith) Strong, '94, Osborne, Kan. Geo. C. Peck, '84, Jewell, Kan. J. A. Butterfield, '99, 3205 East 15th street, Kansas City, Mo. Emily (Wiest) Joss, '04, Kansas City, Mo. Clara Pancake, '03, 21 South Front street, Philadelphia, Pa. W. P. Schroeder, '06, Enid, Okla.

Raymond H. Pond, '98, professor of botany and pharmacognosy in the Northwestern University School of Pharmacy, Chicago, Ill., since 1903, has won the distinction of being awarded a research scholarship in the New York Botanical Garden. Such an honor is awarded only to men who have shown great ability for original investigation.

Among the graduates who were endorsed by reelection recently were Judge Sam Kimble, '73; Judge Rollin R. Rees, '85; M. W. Sanderson, '98, county surveyor of Marshall county; F. J. Smith, '95, third term as county clerk of Russell county; J. O. Morse, '91, county attorney of Linn county; J. C. Christensen, '94, county treasurer of Riley county.

Mrs. Jeanette Thomas, ['98] of Harrisburg, Pa., has written to her parents, Mr. and Mrs. S. A. Perry, concerning the narrow escape of her husband, H. M. Thomas, ['98] at the recent trolley car accident near Atlantic City. Mr. Thomas, while on one of the ill-fated cars on his way to Atlantic City, got into conversation with a man across the aisle. As Mr. Thomas remarked that he had never been to Atlantic City, the stranger said that he was well acquainted there. At the same time he proposed that Mr. Thomas stop off with him at a certain station where they would look about until the next trolley train. Within five minutes after the two men left the car the accident occurred which sent over fifty people into eternity and crippled many others.—*Nationalist*.

# THE INDUSTRIALIST

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The Cement Block Industry.

The making of artificial cement is an old art. It was known to the ancient Romans, who used it in constructing foundations, fortifications, and buildings. The domes of the Pantheon was formed of cement concrete and is in excellent condition to-day. With the fall of the Roman civilization the art became lost for hundreds of years, but was rediscovered again in England a century ago. The English called it Portland cement, because when hardened it resembled a rock found on an island by that name. To-day the name Portland is given to all artificially mixed and burned cements to distinguish them from the natural or hydraulic cements. For years it was thought impossible to make a first-class article in this country. We depended chiefly on cements imported from Germany, but during the last quarter of a century America came rapidly to the foreground and is now overcoming the European countries in the manufacture and consumption of this useful substance.

Portland cement is finding new uses every day. It is crowding quicklime out of all engineering and most of the architectural construction. It has pushed vitrified brick and stone flaging off the sidewalks of our cities. It is being used to construct bridge piers and whole bridges, grain elevators, sewers, and cystersns. It is building embankment walls, warehouses, depots, watering troughs, pig-pens, fence and hitching posts, cellar floors, and grave monuments. There is one use, however, that has not developed satisfactory—the substitution of cement blocks for stone and brick. Reports from cities where factories of cement blocks have been in operation for several years are nearly all to the effect that the sale of such blocks has not increased as was expected; that people do not seem to like them except for cheap foundations or stables, and that architects cannot be induced to specify them.

Where coarse, sharp river sand can be had at small expense the cost of cement blocks is considerably less than that of brick or dressed stone, and it takes very little mortar and labor to lay them in the wall. A mechanic can lay from two to five times as

much cement block wall as he can lay stone or brick. What, then, is the matter with the cement block?

The answer is not hard to find: The cement block wall is not æsthetic; it looks repulsive to a person of taste. Its color is dull and dark. Its surface, whether this be smooth or rough, is unnatural—an imitation. The geometry of the wall that it forms is monotonous. No one can look at a block wall, laid in usual range form, without feeling that it is a cheap substitute for the real wall, built of hand-shaped ashlar, of which each stone has an individuality of its own. The cement block machine, in its eagerness to reduce the cost of the wall material and the labor of building the wall, has annihilated this individuality—this stone character—hence the wall looks dull and stupid.

Another serious fault of the usual block wall is in its lack of properly formed and well-fitted sills, caps, arch-quoins, and "corners." The writer has inspected dozens of cement block structures in many states, but has never seen one that showed satisfactory, well-fitting "dimension" blocks. To attempt to erect a building without an ample number of properly shaped moulds for the necessary dimension blocks, *i.e.*, caps, sills, arch-quoins, corners, dentals, transom sills, mullions, etc., is a waste of means and effort. It may also be said that many manufacturers of cement blocks do not make provisions for the proper insertion in the walls of back lintels, bonds, wall strips, beams and floor joice, wall plates, roof anchors, etc. Often, too, no provision is made for interlocking the blocks, so that the least settlement of the wall will produce cracks clear through the wall and its interior coat of plastering. It is not strange that with these shortcomings architects and the public are not eager to take advantage of the introduction of this cheap and in many respects excellent building material.

Is there a remedy for these defects? The writer believes there is, and offers the following suggestions: First, whiten the color of the blocks by adding a small quantity of well-slacked quicklime to the mortar used to mould the block faces. As the faces are usually made of a separate mixture of specially rich cement mortar, this would not involve much extra work; second, cast and use blocks of different sizes as laid in "broken ashlar" walls, instead of a single block pattern. From three to eight rectangular blocks of equal thickness, but different face sizes, should be combined in the visible face walls; third, give the broken ashlar blocks a natural variety of faces and especially of bulges; fourth, use thinner face block and lay behind these a backing of smaller blocks, thus making the wall double. This will make the building warmer and

more solid and will give the mason a better chance to insert the necessary back lintels, bonds and anchors of all kinds; fifth, bush-hammer and draft the dimension blocks liberally. Cement blocks can be cut with bush-hammer and chisel, almost as well as sandstone, when the cutting is done before the blocks are fully hardened. This will add naturalness to the cast and will make it look like hand work instead of machine work. If John Ruskin had known cement blocks when he wrote his "Lamps of Truth" in his immortal "Seven Lamps of Architecture" he would have said, "A cast rockface is a lie."

The writer risks also to suggest a new use for cement blocks—their use in veneering frame buildings on the outside, as is now being done with pressed brick. Build the house of studs and sheath it on the outside as usual. Cover the sheathing with tar-board or building paper. Then veneer it with cement plates not much over two inches thick and measuring about two by three feet. Such plates can easily be perforated and nailed to the sheathing so that they will fit together. These comparatively large plates should be cast in carefully moulded forms and made to represent broken ashlar work. The joints and false joints should be raise pointed. There is no doubt that a building veneered in this manner would meet every artistic demand, be warm and fairly fire-proof, require no painting and no repairs, and cost but little. Good architecture, however, excludes all veneering and imitating of each and every kind. J. D. WALTERS.

Africa.

If one were to visit either New York or London he might find in either of these places one of those ancient Egyptian obelisks, hewn from the solid quarry thirty-five hundred years ago, and known together as Cleopatra's needles. As we view these relics of a bygone age we recall the story of Rameses and of the Pharaohs, of Moses, and of Alexander the Great, who left his monument at the mouth of the everlasting Nile. We think of the Ptolemies, of Cæsar and of Cleopatra; of the Jews, then of the Moors, then of the Christians of the mediæval age, and we wonder at the future of what has been so aptly termed "the dark continent." To speak the name of Egypt is to suggest the pyramids, to recall the story of the dawn of history, to remind one of a land of tombs, of the dead and buried past. We are reminded that three milleniums before the time of Christ there was in the valley of the Nile a civilization already hoary headed with age. For already in that dim morning of the long story of human progress there was standing

on those shores great pyramids, "Like dials that the wizard Time had raised to count his ages by." Or shall we turn from the pyramids to the Egyptian sphinx with "its eyes wide open and fixed, that have gazed dreamily out over the drifting sands, while empires, dynasties, religions, and entire races have risen and passed away. If its stony lips could speak, they might truthfully utter the words, 'Before Abraham was, I am.' It was indeed probably two thousand years old when Abraham was born." There on the corner of Africa it has stood since a time long before definite written history began "forever gazing on and on into a future"—a future changeable almost as the shifting, tawny sand by which it is now well-nigh enshrouded.

It would be indeed an interesting story to tell of that land of the past, especially in the light of recent discoveries made within those tombs. Yet, it is not of this ancient and fascinating story that I would now write. There is a newer chapter of more vital interest for to-day and for to-morrow, for it may be that the most interesting chapter of Africa's story is yet a thing of the future. It is my intention at this time to make a study of the present political status of Africa. In order to read with interest of the Africa of to-day it is desirable to have a modern map of Africa open before the reader.

As we examine this modern map we note that, as a result of very numerous recent treaties between the various powers of Europe, nearly the whole of this continent is now included in some colony, "protectorate," or "sphere of influence" of seven European nations and Turkey. The only portions of Africa that are not so included are Morocco, Abyssinia, and Liberia. The French sphere is the largest, comprising about three million, seven hundred thousand square miles. This is about the extent of all Europe. England comes next with two million, eight hundred thousand square miles, or almost as great an area as that of the United States proper. Then follow, in order, Germany, Belgium, and Portugal, each with somewhat less than one million square miles. Spain and Italy are the other two European nations that have a portion in the control of Africa.

Let us now examine the map of Africa to see what part of the continent it is that each of these nations owns or controls. Egypt and Tripoli are nominally tributaries of Turkey. But Egypt to-day is practically controlled by England. It was in 1875 that the Khedive of Egypt sold his shares in the Suez canal to England for four million pounds sterling, "thus laying the foundation for that country's influence in Egypt." In 1879 the Khedive refused the payment of interest on his public debt, largely owed to England

and France. Thus it happened that in 1880 a dual British and French control was established in Egypt. A rebellion against the government of Egypt followed, and the English interfered and re-established the government of the Khedive. Since France had taken no part in suppressing the insurrection, the dual control came to an end in 1883, and since that date England has practically ruled Egypt, keeping an army of occupation there. French protests against England's control and occupation have thus far proved of no avail. It was in 1884 that General Gordon, with his army, was so completely defeated at Khartum in attempting to bring the Egyptian Soudan under English control. It was left for Sir Herbert Kitchener to make the desired conquest of this region, which he completed in 1898.

Next, to the west of Tripoli, come Tunis and Algeria—once the seat of the great Carthaginian empire, worthy rival of Rome; later, under Mohammedan rule, and we recall how the United States taught manners to Algerian pirates. Tunis and Algeria now form part of the extensive French possessions. On the north-west corner of Africa, just across from Gibraltar, is the independent state of Morocco—an absolute despotism, and almost the only “civilized” state in the world to-day where criminals may flee with a reasonable hope of escaping beyond the arm of justice. Former bank president Stensland, of Chicago, could testify that criminals are not always safe even here. Southward from Morocco is the small Spanish territory of Rio d’ Oro. Then French Senegal; then Gambia, a small piece of English territory; then more French territory; next, Portuguese Guinea; then French Guinea. Now we have reached British Sierra Leone. Following the coast a short distance, we reach Liberia, the black republic; then still more French territory. The English control Ashanti, and Germany claims Togoland, and next we come to French Dahomey. The larger and important Niger Territories belong to England. This is about one-third the size of the United States. Beyond this is the German Kamerun, and the French Congo. We have now reached the equator and the Congo river, and we have noted all the French territory in Africa except the important island of Madagascar off the eastern coast. Concerning this vast extent of French territory in northwest Africa, it should be noted that it is all connected by the hinterland. Each of the coast states named above, either free or under control of other nations than France, extend inland but a comparatively short distance. Back of them is French territory. A glance at the map, however, instantly re-

veals the fact that since the French possessions include the great Sahara they are not of a value that will compare with the area.

Proceeding down the westward side of Africa, we next reach the Congo Free State. This state is now under Belgian control, and it has an interesting history. David Livingston, the great missionary, began the revelation to the world of the Zambezi on the eastern coast, and up to the head waters of the Congo, Lake Nyassa, and Lake Tanganyika. It was in 1869 that the *New York Herald* sent Henry M. Stanley at the head of an expedition to find Livingston. Stanley succeeded, and he was heartily supported in later expeditions by the King of Belgium, and on these later expeditions, lasting as late as 1890, he thoroughly explored the entire Congo river—nearly three thousand miles in length, about half of which is navigable. The Congo drains a basin of approximately one million square miles. As early as 1876, Leopold II, of Belgium, had taken the lead in organizing the International African Association, the object of which was to encourage African explorers and investigators. Prince Bismarck, of Germany, backed the work of this Association and secured the meeting of the Berlin Conference of 1884, which gave recognition to a new nation—the Congo Free State—which has since come under the control of Belgium. This rich equatorial state is eighty times as large as Belgium, is one-twelfth of all Africa, and has seven thousand, five hundred miles of navigable river.

South of the Congo Free State we find Angola, or Portuguese West Africa; and southeast of this, on the eastern coast of the continent, is Mozambique, or Portuguese East Africa. The latter is especially important as controlling the mouth of the Zambezi river. South of Angola is German Southwest Africa, and north of Mozambique is German East Africa. All the colonial possessions of Germany and of Italy, of course, date from a period later than the formation of these two nations in 1871. The Italian possessions are found in the northeast portion of the continent and are Eritrea on the Red Sea and Italian Somaliland at the easternmost extremity of Africa. Back of these Italian possessions is the free state of Abyssinia. French Somaliland is a small but important possession just at the southeast extremity of the Red Sea.

Practically all the rest of Africa is under the control of England. She controls almost a continuous line of territory from Cape Colony at the southern extremity of Africa to Cairo at the northeast corner, and has already projected her Cape to Cairo railroad through this region so recently unknown and called with truth the "dark continent." Among the British possessions in Africa are

Cape Colony, British South Africa, British Central Africa, British East Africa, her upper Nile sphere of influence, and her practical control of Egypt. This includes her Orange River Colony, the Transvaal Colony, and Rhodesia. The one break in her continuous possessions from Cape to Cairo is where the Congo Free State and German East Africa separate her Central African from her East African possessions. England practically controls the Suez Canal, and she also holds as a protectorate the British Somali Coast, near the eastern extremity of the Red Sea. It will be seen that England holds a very commanding position in the commercial development of Africa.

As to Cape Colony, we recall the heroism of Bartholomew Diaz, who in 1486 first doubled the Cape, and of Vasco da Gama, who in 1497 not only sailed around the Cape but reached India and returned to Portugal, having found for Portugal what Columbus failed to find for Spain—a water route to India. But the Portuguese failed to take actual possession of this land. The English attempted to establish a colony there but failed. The Dutch, however, in 1652 did succeed in establishing a permanent settlement, and secured thus a good title to this valuable land. In 1795 the French had possession of Holland. The Prince of Orange fled to England and asked England to take possession of South Africa. England complied with the request, but gave the land back to Holland in 1802. However, she took it again in 1806, her title to it was confirmed by the Congress of Vienna in 1815, and she has held it ever since. The story of how the Dutch trekked across the Orange river and later across the Vaal, the story of the Boer war and the work of Cecil Rhodes need not be recounted here.

The story of Sierra Leone and of Liberia is of sufficient importance to receive farther notice. It was in 1787 that England established her first colony in Sierra Leone. It consisted almost entirely of negroes who had been slaves in America, who had escaped to Nova Scotia, or who had been taken away to London by the English army during the American revolution. In 1791 we are told that over one thousand colored emigrants were taken to Sierra Leone from Nova Scotia. Near the end of the century some five hundred maroons from Jamaica joined the Colony. Though the Sierra Leone Company enrolled among its directors such venerable names as those of Clarkson and Wilberforce, it was a most turbulent and disreputable colony. Free-town became the capital, and in 1807 a new era began for this colony. In this year the slave trade was declared to be piracy by the British government, and about the same time the colony was transferred from the company to

the government. Slaves taken by British cruisers have ever since been sent to this colony.

Liberia dates from the organization of the American Colonization Society in 1816. Henry Clay presided over the first meeting at Washington when this society was organized for the purpose of colonizing free negroes in Africa. It was supported by both North and South. As England in 1807 declared the slave trade piracy, so the United States, by law of March 2, 1807, prohibited the importation of slaves after January 1, 1808, and in 1820 we declared the slave trade piracy. However, captured slaves were commonly sold in the United States until a law of March 3, 1819, provided that such captured slaves should be colonized in Africa, and thus Liberia was more definitely established. The name of the capital, Monrovia, will help us to recall approximately when this colony was well established.

In closing this essay on Africa it is in order to call attention to the fact that there is here not only a vast extent of territory but that there is also a large population with whom we may expect to develop an increasing commercial and industrial relation, and whom we may hope to raise to a higher standard of living—to a better Christian civilization. There were about four million souls in America when Washington was inaugurated. In Africa, the British sphere, including Egypt, numbers about fifty million souls; the French, about thirty-five million; the Belgian, some seventeen million; the German, nine million; and the Portuguese territories number some eight million souls. RALPH R. PRICE.

Third Annual Meeting of the Kansas Corn Breeders.

The third annual meeting of the Kansas Corn Breeders' Association will meet in Manhattan January 1 and 2, in connection with a big farmers' institute and several stockbreeders' associations, the entire meeting continuing nine days. The mornings and evenings will be devoted to lectures by prominent agriculturists and the afternoons will be given to practice work in corn judging and stock judging in which the farmers and boys who come in to enter their corn in the "Boys' Corn Contest" will be taught how to pick the most perfect ears of seed-corn and the most profitable breeding animals.

Among the speakers who will lecture on corn breeding, or some related subject, are: Director Burkett, who has recently come to us from the North Carolina station; Professor Miller, of the department of agronomy, University of Missouri; Professor Montgomery, department of agronomy, University of Nebraska.

Dr. H. J. Webber, of the United States Department of Agriculture, promised to be present or send a substitute, and there will be other specialists here to talk on the various phases of corn growing and breeding. Among those who will speak on other agricultural subjects are: Joe Wing, the eminent writer of the *Breeders' Gazette*, and Director Curtiss, of the Iowa station.

A corn show, which promises to be the best in the history of the association, will be held in connection with the annual meeting, the contest being open to all farmers of the State. All contestants must enter before 1 P.M. January 1, 1907. The prizes offered in the varieties consists of a total of \$345, and are offered by the following firms: F. Barteldes & Co., Lawrence, choice brome grass, value \$50; Deere & Mansur Co., Moline, Ill., Deere No. 9 planter, value \$42; D. M. Sechler Carriage Co., Moline, Ill., Black Hawk planter, value \$42; Rock Island Implement Co., Rock Island, Ill., Racine fanning-mill with corn-grading attachment, value \$28; Geo. T. Fielding & Son, Manhattan, selected seed-corn, value \$25; Ross Bros. Seed Co., Wichita, choice alfalfa, value \$25; International Harvester Co., Chicago, sweep rake, value \$25; C. E. Hildreth, Altamont, Avery cultivator, value \$15; E. B. Purcell Trading Co., Manhattan, double-barrel shotgun, value \$12; First National Bank, Manhattan, \$10 cash; Union National Bank, Manhattan, \$10 cash; J. Q. A. Sheldon, Manhattan, one-half dozen sterling silver spoons, value, \$6; H. Lyman & Son, Manhattan, single buggy harness, value \$10; John Purcell, Manhattan, \$5 cash; E. A. Wharton, Manhattan, \$5 cash; A. J. Whitford, Manhattan, \$5 cash; R. G. Gillett, Manhattan, \$5 cash; W. S. Elliot, Manhattan, \$5 cash; Manhattan State Bank, \$5 cash; Manhattan Milling Co., Manhattan, \$5 cash; Spot Cash Store, Manhattan, wool blankets, value \$5; E. L. Knostman, Manhattan, Stetson hat, value \$5.

The prizes offered in the various contests will be as follows:

Largest yield of corn per acre—First prize, Racine fanning mill, value \$28. Second prize, two-wheel sweep rake, value \$25.

Best ten ears of yellow corn—First prize, Black Hawk planter, value \$42; second prize, selected seed-corn, value \$25, and \$5 cash; third prize, shotgun, value \$12, and \$10 cash; fourth prize, single buggy harness, value \$10, and \$5 cash; fifth prize, Stetson hat, value \$5.

Best ten ears of white corn—First prize, Deere No. 9 corn planter, value \$42; second prize, alfalfa, value \$25, and \$5 cash; third prize, Avery cultivator, value \$15, and \$5 cash; fourth prize, teaspoons, value \$6, and \$10 cash; fifth prize, wool blankets, value \$5.

Corn not included in above—First prize, \$10 cash; second prize, \$5 cash.

Sweepstakes (best ten ears of corn in the show)—F. Barteldes & Co. offers \$50 worth of choice brome grass seed in this class, to be divided as follows: First prize, \$15 worth of seed; second prize, \$12 worth of seed; third prize, \$10 worth of seed; fourth prize, \$8 worth of seed; fifth prize, \$5 worth of seed.

The above lists do not include nearly \$300 in prizes offered in the "Boys' Corn Contest," which is to be held under the direction of the farmers' institute upon the same dates.

Reduced rates will be offered on all Kansas railroads. Never before has the Kansas farmer had the opportunity of getting so many good things in so short a time at so little expense as is offered at the various farmers' meetings to be held at the Kansas State Agricultural College at Manhattan during the Christmas holidays.

The Kansas of To-Day.

The *Kansas City Star* speaks of Kansas farmers and their great school in the following happy manner: "The Kansas State Agricultural College at Manhattan has wielded a wonderful influence for good, and it is still doing so, yet it is the fashion anyway out here in Kansas for progressiveness to rule the farmer. A Kansas farmer not more than three months ago paid \$3000 for one hog. Of course such a costly animal is used for breeding purposes, and is in no danger whatever of being sent to slaughter. The same interest and the same high values apply to his herds of horses, cattle, and other stock.

"Kansas women are keeping pace with their husbands, fathers, brothers and sweethearts in the matter of progress. The Kansas matron takes as much pride in her home as the Kansas farmer does in his pedigreed stock. The Kansas maiden may not be in line for Poughkeepsie, N. Y., to matriculate in Vassar college, but the reason is because she doesn't need to do so, for finished education is obtainable here at home, the schools of Kansas being as good as any in the world. Kansas has been busy with things material, it is true, yet not so busy as to neglect the aesthetic side.

"At Manhattan the State maintains a College where business-like farming is taught to boys, and there is also a department where girls are given expert instruction in domestic science. That is, 'domestic science' is what the College professors call it, but the good old name for it is cooking and good housekeeping.

— "Thus, the Kansas of to-day is a wonderfully enlightened Kansas,

and if some of the early-day settlers who left Kansas a quarter century ago because a few grasshoppers happened to come this way and because conditions incident to a new country caused a few crop failures; yes, if some of these quitters who treked back to the rented farms of the older states could see Kansas to-day they would be more greatly surprised than was Rip Van Winkle when he saw what changes had been wrought while he slept.

"Brand new towns, fresh from the work-shop of progress—and farm houses filled with 'town fixin's'—that's the Kansas of to-day."

Students from the Philippines.

Dr. David P. Barrows, director of education in the Philippines, is on his way to this country. He will remain here for eight months, during which time he will keep in touch with the young Filipino students who are in American institutions. It is said that some of the young Filipinos sent here for four-year terms will be continued in this country another year to complete advanced professional training. Several of the young students who have done exceptional work in agricultural, medical and other professional schools are anxious to obtain degrees, and as this is essential to their professional standing in the islands after their return it is likely that Doctor Barrows will recommend the extension of the time.

When the first students came here from the islands, the secondary schools there were not capable of preparing the young Filipinos for entrance to colleges and universities in this country. Consequently many of the students were compelled to take a year of preparatory work in the United States and lost time which they had expected to give to the beginning of a four-year college or professional course.

The eight Filipino students who were placed in this College to study agriculture have done very acceptable work and have behaved excellently in every respect. They have assimilated American ways among our students and have learned the English language so rapidly that there is no "color line" in existence at this institution as far as they are concerned. They are a group of promising boys, and we hope that they will be permitted to stay here till they graduate.

The city auditorium is to be remodeled and used as a place for basket-ball practice by the College basket-ball club.

THE INDUSTRIALIST

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Kansas State Agricultural College
Manhattan, Kansas.

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Local Notes.

The INDUSTRIALIST congratulates Assistant and Mrs. Scheffer on their "new" baby boy.

Junior student L. Dugan, of the architectural course, has drawn plans and elevations for a very artistic summer bungalow for a party in his home state, Indiana.

I. D. Prather, who has been private secretary to President Nichols for the past two months, has resigned and accepted a position as bookkeeper at the Soldiers' Orphans' Home, in Atchison, Kan.

C. S. Marty, '96, of Barber county, has sent three wild cats, killed last week on his range on Bear creek, to the zoölogical museum. Assistant Scheffer will prepare the specimens and arrange for a group exhibit of the felines in one of the museum cases.

The football game between the K. S. A. C. second team and Troop A, 13th cavalry team, from Ft. Riley, at the home athletic field last Wednesday, turned out to be a farce. The Soldiers were no match for the Farmers, who scored almost at will. The score stood 55 to 5 in favor of our boys.

Thanksgiving day added another victory to the galaxy of our athletic team. This time the State Normals were the sufferers, the score being 10 to 0 in our favor. The game was played on the Emporia athletic field pending a streaming rain. About 25 of our students went with the team to root and see the fun.

Prof. Popenoe has been absent on institute work along the south Santa Fe districts since November 19. He spoke at Great Bend, Sterling, Darlow, Wellington, Arkansas City, Iola, and Burlington. Institute Director J. H. Miller assisted in all of these institutes, and Professor McCormick attended those at Iola and Burlington.

Our students are figuring it out that, by beating the athletic team of the State University Friday of last week, they have indirectly beaten the institutions over which the State University had been victorious earlier in the season, and that they are now the football champions of Kansas, Colorado, Nebraska, Oklahoma, and Arkansas.

Professor Kammeyer was called out for a speech on the "latest addition" to his family last Tuesday morning after chapel exercises. He feelingly thanked the students for their interest in his family affairs, and said that he considered himself richer than a king, for he would not trade his sweet baby girl for a kingdom or anything else.

Prof. Henrietta Calvin, of the Department of Domestic Science, has returned from her institute trip and intends to stay at College for the remainder of the term. While absent for over a month she addressed farmers' institutes at Mulvane, Hackney, Burden, Anthony, Kingman, Hutchinson, Newton, Peabody, Emporia, Council Grove, Norton, Phillipsburg, Smith Center, Mankato, Belleville, Washington, Blue Rapids, Seneca, Hiawatha, Troy, Holton, Oskaloosa, Tonganoxie, Ottawa, and Garnett.

A farmers' institute will be held in Manhattan next Saturday, December 8, the first one at this place for many years. Addresses will be made by Judge Kimble, '73, and Ed. Secrest, formerly a Regent. Assistant Scudder will give a drill in corn judging, Professor TenEyck will lecture on corn breeding, and Professor Calvin on bread making. Awards will be made in the boys' corn-growing contest. Twelve prizes will be given aggregating \$53. The institute will be held in Commercial Club Hall, and the ladies of the Grange will serve coffee free.

Since October 22 Professor Erf has attended 15 farmers' institutes in different parts of the State, Professor TenEyck has attended 29, Mr. Wheeler 7, Professor Popenoe 12, Professor Dickens 14, Professor McCormick 2, Professor Willard 1, Foreman Elling 11, Director Burkett, of the Experiment Station, 8, Professor Shoesmith 2, and Professor Calvin 26, while Farmers' Institute Superintendent Miller has been "on the go" all the time, day and night. (We nearly said Sundays and week days, but it would probably not do to confess that much.)

The next number of the College lecture course, December 7, will consist of an entertainment by Master Magician Carter, the great conjurer. It will be good. Wherever Carter has appeared, by reason of his powers as an entertainer and mirth provoker alone the people look upon the occasion as an event never to be forgotten. Carter's entertainment is like sunshine to the old and a delightful period of gladness to the young. With tears glistening the aged remark, "I have never laughed so much before in my life," and the children in years after look back on a bright phantasm as a pleasant recollection of Carter. Let everybody come and have a laugh.

The farmers' institute department of the Kansas State Agricultural College is engaged in the greatest "corn campaign" that was ever carried on in any state. From October 15 to December 15 over one hundred institutes will have been held in different parts of the State and at about seventy of them corn breeding is the important topic. On December 3 an institute circuit begins, with corn the principal subject in the morning, and good roads in the afternoon sessions. The dates and places for this series are as follows: December 3, Alma; December 5, Cottonwood Falls; December 6, Marion; December 7 and 8, Eldorado; December 10, Sedan; December 11, Independence; December 12, Oswego; December 13, Pittsburg; December 14, Osawatomie; December 15, Spring Hill.

The newly elected assistant librarian, Miss Anne Morris Boyd, arrived last week and has already familiarized herself with the work of the department. Miss Boyd is an Illinois woman. After completing the common-school course of Decatur, Ill., she attended for a while at the Kentucky State College, and later graduated from the James Millikin University (1906) with the degree of A. B. While studying at the latter she was assistant in the library. After graduation she was elected assistant in the Tuscola (Ill.) Library, filling this position for one year, and while here she took graduate work in Millikin University. Miss Boyd is a bright young woman and comes to us well recommended.

Civil service examinations will be held in Topeka, Wichita, Fort Scott, and Salina, on December 12, to fill a large number of vacancies for veterinary inspector, at \$1200 per annum each, in the Bureau of Animal Industry, United States Department of Agriculture. The examination held on October 17 secured but 28 eligibles, while at least 50 are wanted. Applicants must be graduates of veterinary colleges having a regular course of not less than three years. Age limit, 20 years. Applicants should write at once to the secretary of the board of examiners at any of the given places for application form 1312. A similar examination will be held at same time and places for the position of forest assistant at \$900 per annum. Written applications without examinations will also be received at the United States Civil Service Commission, Washington, D. C., in the Bureau of Plant Industry, for the position of "dry land agriculturist" at \$2000 per annum. Age limit, 21 years.

Mr. W. H. Andrews, A. B., elected assistant in the Department of Mathematics of this College last September, was born in Illinois, but has lived all his life in Kansas. In 1892 he was elected principal of the schools of Downs, Kan. Here he remained four years, resigning in 1896 to enter the University of Kansas. After one year's work in that institution he was chosen principal of the Beloit High School. In the fall of 1898 Mr. Andrews entered the University of Chicago. In this institution he did three years' work, and was graduated with the degree of A. B. His major work in the University was mathematics, his minor philosophy and Greek. Upon leaving the University Mr. Andrews was elected professor of Latin and pedagogy in Central Normal College. In 1902 he became superintendent of schools in Blue Rapids, Kan., and remained there until elected head of the department of mathematics in the Leavenworth high school, from which he resigned to accept his present position. Mr. Andrews has worked in twenty normal institutes, either as conductor or instructor. In 1895 he was president of the North Central Kansas Teachers' Association at its meeting at Concordia. He has delivered a number of addresses at different times before teachers' institutes and educational meetings and is well known among the educators of the State as a spirited and systematic teacher. He has taken hold of his work at this College with commendable energy, and will undoubtedly make it a success.

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# THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., DEC. 8, 1906.

No. 9

## *Seed-Corn.*

Professor TenEyck announces that the Agronomy Department will have "Choice Seed-Corn" for sale for next spring's planting, as follows:

McAuley's White Dent, a medium late-maturing corn; Boone County White, medium in season; Silvermine, a medium early-maturing variety; Hildreth, a rather late-maturing, large-eared corn; Kansas Sunflower, a medium late-maturing, yellow corn; Legal Tender, a Yellow Dent variety, medium in season; Reid's Yellow Dent, a medium early-maturing variety; Hogue's Yellow Dent, a variety similar to Reid's Yellow Dent, but perhaps a little earlier in maturing.

The McAuley's is one of our best-producing varieties of White Dent corn. It is a "native" Kansas corn, similar in type to the Boone County White. The Boone County White and Silvermine are "pure-bred" varieties of corn introduced from Iowa and Illinois.

The Hildreth corn is late in maturing, but is one of the best-producing varieties which we have tested at this station during the past three years. It is well adapted for growing on fertile soil, and gives large yields in favorable seasons. The corn does well on the upland soil of the station farm, where the trials of the past three seasons have been made. This variety is a "native" Kansas corn, as is also the Kansas Sunflower. The last-named variety is an excellent producer and a little earlier in maturing than the Hildreth. The ears are smaller and the stalks are not quite so large. It is well adapted for growing on upland, but produces the largest crops on fertile soil. The Reid's Yellow Dent, Legal Tender, and Hogue's Yellow Dent are similar in type and are varieties which we have introduced from other states: Reid's from Illinois, Legal Tender from Iowa, and Hogue's Yellow Dent from Nebraska. As types of medium early-maturing corn, these varieties are excellent producers.

We would not recommend the seed of any of these varieties of corn for planting in Western Kansas, since this corn is not adapted



for growing in that section of the State. Perhaps our seed-corn is best adapted for growing in the central and northern sections of the State, but it will do well in Southeastern and Southcentral Kansas. McAuley's, Boone County White, Hildreth, Kansas Sunflower, and Reid's Yellow Dent may be well adapted for growing in the south and southeastern parts of Kansas. For the central and eastern parts of the State, any of the varieties named should succeed well. For the northern section, the Hildreth corn matures a little too late to make a sure crop, and the McAuley's and Kansas Sunflower are a little late in maturing for growing in the most northern counties of Kansas. The other varieties named are well adapted for growing in that section of the State. For the northwestern counties, such as Phillips, Norton, and Decatur, the Hogue's Yellow Dent succeeds well, and the Boone County White, Legal Tender, and Reid's Yellow Dent may be recommended for trial in that section of the State.

This seed-corn is sold in three grades, as follows: First grade, in the ear, shipped in crates, at \$2.50 per bushel of seventy pounds of ears. Second grade, either in the ear, in crates, or shelled, fifty-six pounds per bushel, in sacks, at \$1.50. Third grade, shelled, fifty-six pounds per bushel, at \$1.

These prices are f. o. b. Manhattan, no charges being made for sacks. The first-grade corn is selected from the field early in the fall, as soon as the corn is fully matured. Care is taken to select for uniformity, both in the stalk and ear. This corn is all carefully dried in our seed-house. The second-grade and third-grade selections are made at husking time. The better grade of ears is classed as second grade and sold either in crates or shelled as preferred. The third selection consists of ears which have good kernels and are of good type, but are not sufficiently perfect to be sold in the ear. The tip and butt kernels are removed from such ears and the corn is shelled.

As our supply of first-class seed is limited we prefer to sell only a bushel or less to one farmer so as to distribute it as widely as possible.

The stock-judging delegation of students from this College who took part in the stock-judging contest of the International Stock Show at Chicago this week secured a number of prizes, though they did not do as well as expected. O. J. Olsen, of the agricultural course, stood second in general judging, a student from the Ontario Agricultural College being first. The stock that was sent there from here ranked high; the white Short Horn steer stood first in six college herds. Some of the other animals were placed well.

# State Farmers' Institute

AND

## Allied State Conventions

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**December 27, 1906, to January 5, 1907**  
**Manhattan, Kan.**

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### Convention Schedule

MONDAY, DEC. 31, 2 P. M.—State Boys' Corn Contest (3 sessions).  
TUESDAY, JAN. 1, 2 P. M.—State Corn Breeders' Association (3 sessions).  
WEDNESDAY, JAN. 2, 2 P. M.—Kansas Good Roads' Association (3 sessions).  
WEDNESDAY, JAN. 2, 4 P. M.—Draft Horse Breeders' Association (4 sessions).  
THURSDAY, JAN. 3, 2 P. M.—State Dairy Association (3 sessions).  
THURSDAY, JAN. 3, 4 P. M.—Kansas Swine Breeders' Association (2 sessions).  
FRIDAY, JAN. 4, 2 P. M.—Kansas Aberdeen-Angus Association (2 sessions).  
SATURDAY, JAN. 5, 12 M.—Hereford Sale.



**All Meetings will be held in the**  
**Kansas State Agricultural College Buildings**



## State Farmers' Institute

Kansas State Agricultural College  
Manhattan, Kan.

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Thursday, Dec. 27, 1906, 8 a.m., to Saturday, Jan. 5, 1907, Noon

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Corn and Corn Judging, - - - *Professor Ten Eyck*  
Stock and Stock Judging, - - *Professor Kinzer*

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For the first three days this work will be given both in the mornings and afternoons. During the second week only two hours daily will be given to each subject. All members of the Institute will be expected (although not required) to take both subjects. Lectures will begin at 8 o'clock each morning, Professor Kinzer's lectures in the stock pavilion, Professor TenEyck's in the old chapel, one-half the Institute going to each for the first two-hour period and then changing. Score-cards will be provided for all members for each session.

Members will please register the first day at the office of the Superintendent of Institutes in the Agricultural hall. Attendance cards will be given out then, to be returned at close of session, records to be made by each member. No fee of any kind, no incidentals, no books required, except note-books.



**Do not miss the first session**

# Farmers' Week

At the

Kansas State Agricultural College  
Manhattan, Kansas

December 31, 1906, 2 P. M. to January 5, 1907, Noon

## Boys' Corn Contest Association

Monday and Tuesday, December 31 and January 1

### Monday Afternoon.

- 2:00 Assembly and Greetings (Old Chapel).
- 3:00 Visit to Horse, Cattle and Hog Barns.
- 4:00 Visit to Dairy Barn and Creamery.

### Monday Evening.

(Auditorium.)

- 8:00 The Boy and Scientific Agriculture . Prof. C. W. Burkett  
Director Kansas Experiment Stations.
- 8:30 Address . . . . . Hon. Jos. E. Wing  
Associate Editor Breeders' Gazette, Chicago.
- 9:30 Corn Breeding (with stereopticon views) . . . . . Prof. A. M. Ten Eyck

### Tuesday Morning, Jan. 1, '07.

(Girls' Gymnasium.)

- 8:00 Drills in Corn Judging.
- 10:00 Lecture on Corn Judging . . . . . Prof. A. M. Ten Eyck  
Kansas State Agricultural College.
- 10:30 Address . . . . . Prof. A. D. Shamel  
United States Dept. of Agr., Washington, D. C.
- 11:30 Awarding of Prizes.



## Kansas Corn Breeders' Association

Tuesday and Wednesday, Jan. 1 and 2, 1907

### Tuesday Afternoon.

(Girls' Gymnasium).

- 2:00 The Opportunity in Seed Improvement . . . . . Prof. C. W. Burkett  
 . . . . . Director Kansas Experiment Stations.
- 3:00 Seed and Soil Problems . . . . . Prof. E. G. Montgomery  
 . . . . . University of Nebraska
- 4:00 Inspection of Corn Exhibits.

### Tuesday Evening.

(Auditorium.)

- 8:00 Qualities in Ear of Corn that Go to Make a High  
 Yield . . . . . Prof. M. F. Miller  
 . . . . . University of Missouri.
- 9:00 Address . . . . . Prof. A. D. Shamel  
 . . . . . U. S. Department of Agriculture, Washington, D. C.

### Wednesday Morning.

(Girls' Gymnasium).

- 8:00 Drills in Judging Corn.
- 9:00 Business Meeting.
- 10:00 Insects Injurious to Corn . . . . . Prof. E. A. Popenoe  
 . . . . . Kansas State Agricultural College.
- 10:45 Address . . . . . Prof. M. F. Miller
- 11:20 Awarding of Prizes and Sale of Prize Corn.
- 12:00 Adjournment.

C. E. Hildreth, *President.*  
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 Manhattan.

## Kansas Good Roads' Association

Wednesday and Thursday, January 2 and 3, 1907

### Wednesday Afternoon.

(Girls' Gymnasium.)

- 2:00 President's Address . . . . . Mr. C. F. Miller  
Fort Scott.
- 2:30 The Gospel of Good Roads . . . . . Mr. Barney Sheridan  
Paola.
- 3:00 Good Roads Laws . . . . . Hon. Edwin Snyder  
Oskaloosa.
- 3:30 Engineering Problems in Road Building . . . . . Prof. W. C. Hoad  
University of Kansas.
- 4:30 Report of Work in Atchison County . Mr. L. S. Hereford  
Atchison.

### Wednesday Evening.

(Auditorium.)

- 8:00 Bridges and Culverts . . . . . Prof. E. B. McCormick  
Kansas State Agricultural College.
- 8:40 Road Inquiry and Road Economics . Hon. M. O. Eldridge  
Office of Road Inquiry, Dept. of Agr., Washington, D. C.

### Thursday Morning.

(Girls' Gymnasium.)

- 8:00 The Relation of Drainage to Good Roads Construc-  
tion . . . . . W. R. Goit  
Oklahoma City, Okla.
- 8:30 My Experience with the King Road Drag . . . . . Hon. Bradford Miller  
Topeka.
- 9:00 Report on State Experiments on Oiling Roads . . . . . Prof. Albert Dickens  
Kansas State Agricultural College.
- 9:30 Importance of Engineering Control in Road Construc-  
tion . . . . . Lute P. Stover  
Engineer, Wichita Natural Gas Co., Wichita.
- 10:00 Good Roads Commission and the Fort Scott Idea . . . . . Hon. Robt. Stone  
Topeka.
- 10:30 Report of Work in Bourbon County . . . A. J. Sherman  
Fort Scott.
- 11:00 Business Session.

C. F. Miller, *President*  
Fort Scott

I. D. Graham, *Secretary*  
Topeka



## Kansas Draft Horse Breeders' Association

Wednesday, Thursday, Friday, Jan. 2, 3, 4, 1907

### Wednesday Afternoon.

(Room 54 Agricultural Hall.)

- 4:00 Organization.
- 4:15 Needed Legislation . . . . . Prof. R. J. Kinzer  
Discussion opened by H. W. Avery, Wakefield.

### Thursday Morning.

- 8:00 to 10:00 Drill in Horse Judging . . . . . Professor Kinzer

### Thursday Evening.

(Old Chapel.)

- 8:00 The Draft Horse Outlook . . . . . Mr. J. A. Gifford  
Beloit.
- 8:30 How to Feed and Develop a Colt . . . . . Mr. S. C. Hanna  
Howard.
- 9:00 The American Carriage Horse . . . . . Prof. W. J. Carlyle  
Colorado Agricultural College.

### Friday Evening.

(Auditorium).

- 7:30 Business Meeting.
- 8:00 Kansas as a Live Stock State . . . . . Hon. T. M. Potter  
Peabody.
- 8:30 Some Important Principles in Breeding . . . . . Hon. J. W. Robison  
El Dorado.
- 9:00 Comparison of Types in Meat Producing Animals . . . . . Mr. F. D. Tomson  
Chicago.

# Kansas Dairy Association

Thursday and Friday, January 3 and 4, 1907

## Thursday Afternoon.

(Girls' Gymnasium.)

- 2:00 The Farmer and the Dairy Cow . . . . . C. F. Stone  
Peabody.
- 2:30 My Success as a Dairyman . . . . . F. F. Fairchild  
Tonganoxie.
- 3:00 The Dairy for Profit . . . . . F. E. Uhl  
Kansas City, Kan.
- 3:30 The Lesson of Care in the Dairy Business . Prof. Oscar Erf  
Kansas State Agricultural College.
- 4:15 Milking Machine Demonstration.

## Thursday Evening.

(Auditorium.)

- 8:00 The Necessity of State Supervision and Inspection . .  
. . . . . Hon. R. M. Washburn  
Columbia, Mo.
- 9:00 The Suicidal Competition of the Large Creameries  
and the Place of the Small Creamery . . . . . Hon. E. H. Webster  
Chief Dairy Division U. S. Dept. of Agr., Washington, D. C.

## Friday Morning.

- 8:00 Hand Separator and Butter-Making Demonstrations.
- 9:00 Business Meeting.
- 9:30 Modern Dairy Methods . . . . . Prof. E. W. Curtis  
Kansas City, Mo.
- 10:00 How to Interest the Farmer in the Dairy Business . .  
. . . . . T. A. Borman  
Topeka.
- 10:30 Dairying an Important Factor in Economic Agricul-  
ture . . . . . Prof. C. W. Burkett  
Kansas State Agricultural College.
- 11:00 The Dairyman of the Future . . . . . W. W. Marple  
Chicago.

H. Van Leeuwen, *President*  
Ottawa.

I. D. Graham, *Secretary*  
Topeka.



# Swine Breeders' Association

Thursday and Friday, January 3 and 4, 1907

## Thursday Afternoon, Jan. 3, 4 o'clock.

|                                 |                            |
|---------------------------------|----------------------------|
| Poland-China Breeders . . . . . | Room 54, Agricultural Hall |
| Berkshire Breeders . . . . .    | Room 52, Agricultural Hall |
| Duroc-Jersey Breeders . . . . . | Room 56, Agricultural Hall |

## Friday Morning.

|       |                                                     |                                                                      |
|-------|-----------------------------------------------------|----------------------------------------------------------------------|
| 8:00  | Drills in Hog Judging . . . . .                     | Prof. R. J. Kinzer<br>(General Meeting. Agricultural Hall, Room 54.) |
| 9:00  | Business Meeting.                                   |                                                                      |
| 9:30  | Shows and Fairs . . . . .                           | M. G. Hamm<br>Holton.                                                |
| 10:00 | Establishing a Type and a Herd . . . . .            | G. W. Berry<br>Emporia.                                              |
| 10:30 | Some Fundamentals in Breeding and Feeding . . . . . | Prof. G. C. Wheeler<br>Kansas State Agricultural College.            |
| 11:00 | The Advertising Problem . . . . .                   | J. F. Stodder<br>Burden.                                             |
| 11:30 | — . . . . .                                         |                                                                      |



Friday and Saturday, Jan. 4 and 5, 1907

(Agricultural Hall, Room 54.)

- |      |                                                 |                                                          |
|------|-------------------------------------------------|----------------------------------------------------------|
| 1:30 | Organization and Business.                      |                                                          |
| 2:00 | The Aberdeen-Angus Outlook . . . . .            | L. H. Kerrick<br>Bloomington, Ill.                       |
| 2:30 | Why I Prefer the Aberdeen-Angus . . . . .       | Geo. Stevenson<br>Waterville.                            |
| 2:50 | The Aberdeens on the Range . . . . .            | Charles E. Sutton<br>Lawrence.                           |
| 3:15 | Some Important Principles in Breeding . . . . . | Prof. R. J. Kinzer<br>Kansas State Agricultural College. |
| 4:00 | The Association and Sales . . . . .             | F. D. Tomson<br>Chicago.                                 |

### Stock Pavilion.

- 8:00 Points in Judging the Aberdeen-Angus Cattle.

12:00 Sale of Hereford Cattle, property of Mr. J. G. Arbuthnot  
Haworth, Kan.





# THE INDUSTRIALIST

*Published weekly during the College year by the  
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## Kansas State Agricultural College

Manhattan, Kansas.

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### Local Notes.

Professor Dickens reports the wheat all over the State in better condition than ever before.

The domestic science short-course girls gave a reception Friday evening of last week to invited guests.

The senior football team went to Clay Center Thanksgiving day and played the high-school team at that place. The score was 6 to 6.

Professor Valley is practicing his vocal classes on an oratorio to be given at the annual concert next term. The orchestra has commenced work on the orchestration.

Professor Dickens spent several days of last week at the College Branch Experiment Station, at Hays, and reports the tree plantations and especially the evergreens in excellent condition.

Jersey Bess, a Jersey heifer bred and raised at this College and sold to Mr. Evans, of Phoenix, Arizona, won the grand prize at the Territorial Exposition at that place. This speaks well for our Jersey herd.

Professor Dickens, who returned Thursday night from an institute trip, left Friday to go to Garden City, Hutchinson and Maple Hill to inspect the experimental oiled roads which were built at those places by the College.

President Nichols has been busy for two weeks devising a time-table for the coming winter term. As the classes multiply the problem of giving every student a good chance to hear his lectures becomes more and more complex.

Professor Willard has been subpoenaed to testify in an oleomargarin case on behalf of the United States Government in the federal court of the Indian Territory, and will be absent a part of next week on that account.

Shige Suzuki, the Japanese dairy student who has been with us for a year, and who left last July to study the dairy methods of the East, has returned and will stay till February, when he will return to Japan, near Sapporo, where he will engage in the dairy business.

Professor Marvin, Dean of the engineering school of the State University, spent last Friday looking over the College. He was especially interested in the equipment of the engineering departments and expressed himself as agreeably surprised with their many evidences of growth.

The senior and junior football teams are practicing hard for their annual game that is to be played in Athletic park this (Saturday) afternoon.

The new smoke-stack is now connected with the west battery of boilers but it will not be used until the first of the year, unless the weather becomes very ugly.

Assistant Miss Weeks, of the Department of Architecture and Drawing, is arranging for a public exhibition of the work of her classes in free-hand and object drawing, color and design, and home decoration. The exhibition will be in her attic class room on Saturday afternoon, December 15. There will be several hundred studies in pencil and watercolor, besides a number of original designs for curtains, pillow tops, etc. The exhibit will be worth visiting.

Professors Eyer and Willard and Assistant Weeks and Mr. Withington attended the annual meeting of the Kansas Academy of Science, at Topeka, on Friday and Saturday of last week. Professor Eyer presided over one of the sections and Professor Willard read a paper. Both of them were called upon for toasts at the annual banquet and, according to newspaper reports, "brought down the house" by their spice and wit. The next meeting of the Academy will be held in Emporia.

### ***Alumni and Former Students.***

Dr. Chas. Eastman, '02, is now practicing veterinary medicine and surgery in San Francisco, where his address is 445 Golden Gate Avenue.

Miss Christine D. Hofer, '02, and Mr. William Johnson were married, November 28, at the bride's home in Brielle, N. J. They will be at home after December 15 at 217 Littleton Avenue, Newark, N. J.

Changes of address: Georgia (Dewey) Sutherland, '93, 18 Rutland Square, Boston, Mass. Chester A. Maus, '04, 623 Lawrence street, Topeka, Kan. M. V. Hester, '94, Haviland, Kan. Maude F. (Sayers) Deland, '89, 2219 Thompson street, Philadelphia, Pa.

*Rocky Mountain Farming* is a nicely printed and well-illustrated sixteen-page paper published by the Agricultural College of Utah. Volume 1, No. 1 was issued last month. Its departments are edited by members of the faculty, among whom we note that Dalinda (Mason) Cotey, '81, Dean of the School of Domestic Science and Arts, is in charge of "The Home."

J. D. Needham, '83, made a flying visit last Sunday and mystified his classmates by his complete change in appearance. A bald head and a bearded face constitute an effective disguise. Mr. Needham had not visited the College since his graduation, and probably could not have been dragged away from home this time had it not been that he was serving on the federal jury at Topeka. He still resides at Lane, Kan., his old home.



F. W. Haselwood, '01, is now resident engineer in charge of construction for the Western Pacific Railway. He still expects to graduate from the course in civil engineering at Leland Stanford, Jr., University, but the opportunity to earn money is too flattering at present.

E. W. Doane, '01, after five years' absence in California, has been visiting the home folks and friends here for two or three weeks. Mr. Doane was graduated from Leland Stanford Jr. University in 1905 and has since been employed as civil engineer with the Monterey county water-works. He returned to the West this week to resume his work, after a well-earned vacation. His address is Monterey, Cal.

At the meeting of the Kansas Academy of Science at Topeka last week papers were presented by alumni as follows: "Additions to the List of Kansas Coleoptera for 1906," "Sacramento Mountains, New Mexico, Coleoptera," "Notes on Kansas Coleoptera," and "Kansas Carabidae, Cerambycidae, and Chrysomelidae," W. Knaus, '82; "A Test for Artificial Bleaching of Flour," J. T. Willard, '83. Grace R. Meeker, student in 1880, presented a paper on "Nature Photography in Kansas—the Work of Mr. and Miss McCole." "

### ***K. S. A. C. Weather Report for November, 1906.***

The weather for November, 1906, was normal except for the per cent of cloudiness, there being more cloudy days than are usual for this month.

The mean temperature for the month,  $40^{\circ}$ , was  $.2^{\circ}$  above normal. The mean maximum temperature for the month was  $51.2^{\circ}$ , the mean minimum temperature being  $28.9^{\circ}$ . The highest temperature was  $79^{\circ}$  on the 6th. This was nothing unusual, temperatures running as high as  $96^{\circ}$  on November 2, 1867, being recorded. The lowest,  $14^{\circ}$ , on the 22nd has been exceeded a number of times,  $-9^{\circ}$  on the 27th, 1887, being the lowest.

There were 6 days on which rain fell to a measurable depth, giving a total of 2.21 inches, which has been exceeded only four times, 7.83 inches, November, 1879, being the greatest amount.

The snow fall amounted to 2.6 inches, being exceeded in only three years, 9 inches falling in 1898.

There were 13 clear, 5 partly clear, and 12 cloudy days. The wind averaged from the west with a total run of 5979 miles, which was 876 miles below normal, the average run for 24 hours being 199.3 miles. Average run per hour, 8.3; the greatest run for 24 hours being 335 miles on the 16th.

The mean barometer for the month was 29.08, being above normal. The highest 29.57, on the 27th, the record for November being 29.68, November 15, 1903; the lowest 28.00 on the 16th, the record being 27.80 November 11, 1881.

The ground at end of month remains unfrozen and plowing still continues. The rains, breaking the drouth of an extended period, put the wheat in excellent condition.

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THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., DEC. 15, 1906.

No. 10

Improvement of School Grounds.

A noted Kansan once wrote a poem setting forth the idea that opportunity knocks but once at every man's door, and then hurriedly takes his departure if that door is not forthwith opened. The poet must have overlooked the doors of our country school-houses in his observations, for even the uninitiated can see that opportunity has been battering at these entrances for years. In a few cases he has been admitted; in many others he would be amply justified in breaking the door down and entering without invitation. To introduce a little logic: Every neglected school ground affords the pupils an opportunity for practical cultural work; Kansas has a great many neglected school grounds; therefore Kansas boys and girls need not lack for opportunities in one line at least.

A condition of affairs once recognized as being undesirable is the more easily bettered. Not much evidence need be introduced to convict us of neglect of our rural school grounds. Bare, cheerless surroundings tell the truth, the whole truth, and nothing but the truth, as the court phrase goes. Picture to yourself the average country schoolhouse as you see it on almost every hand here in the West: An oblong box with a row of windows on each side and a door in one end. For the sake of convenience the fuel supply is often kept in a dilapidated box on one side of this single entrance, and the ashes are dumped on the other. On the rear of the weedy lot two other battered looking buildings, with doors hanging by one hinge, make a bid for prominence. That is all, except a litter of broken ball bats, worn-out joints of stove-pipe, pieces of brick, stones, and the like.

The picture is not overdrawn. Anyone can verify these statements by a little observation on his own account. Are these ideal surroundings in which to train the future citizens of Kansas for a life of contentment, usefulness, and happiness? We cannot dismiss the matter by saying that what was good enough for our fathers is good enough for us. We honor the pioneers for doing the best they could under the then existing circumstances; but

the pioneer days are past in Kansas and it would not be consistent with our boasted strides in progress to give less attention to school environment than to other phases of the subject of primary education.

It is not easy to understand just why the matter of school ground adornment has been so long neglected. It can not be that the expense likely to be incurred has deterred many school boards from making improvements, for no people are more liberal than our progressive citizens of the prairies when the question of their children's education is concerned. Then, too, the more wealthy districts, which never need to levy more than one-half or one-third of the legal limit, make no better showing on their school premises than the poorer districts. To ascribe the neglect to indifference, on the other hand, would be to bring upon ourselves the stigma of lack of interest in that which concerns the immediate future of our communities. We are not indifferent; at least we are always ready enough to resent any adverse criticism made by outsiders upon features of our system of education.

If we cannot lay the blame at the door of poverty, nor yet of indifference, where shall we place the responsibility for our bleak, desolate-looking school yards? I confess considerable ignorance on this point. I believe, however, that these conditions result wholly from our lack of the proper point of view. We fail to realize the important role that environment plays in the education of the child. We assume that the success or failure of the educational effort hinges solely on the selection of well-planned text-books and a competent teacher. Teacher and text-book go far toward constituting a school, but there are other things that contribute to the proper training of the child, not the least of these being pleasant and attractive surroundings.

The average rural citizen, or burgher for that matter, does not show lack of interest in school affairs, but he is too prone to think he has done his whole duty when he has paid his taxes, or, at most, *sacrificed*, in addition, an hour of his time in attending the annual school meeting. Now, to be honest with ourselves, does it pay to give more time and thought to the development of better breeds of stock and better grades of cereals than we do to the development of the future citizens of our communities, especially when some of these embryo citizens bear our own names?

It stands to reason that we should take advantage of every circumstance that in any degree contributes to the ideal development of the child. The age of youth is the impressionable age, and we are apt to underestimate the influence of the so-called

lesser forces upon the budding citizen. After the slender sapling has developed into the sturdy oak it does not matter so much which way the winds blow.

To be so trained that one may be able to get a good living is well; to have that point of view which will enable one to get life is better; a combination of such training with such a point of view is best. In a previous article in the *INDUSTRIALIST* a number of reasons were given for the tendency among country-bred boys and girls to desert the farm when they arrived at the age of choice. Not the least potent of these reasons is the unattractive features of so many farm premises. Too often the only end in view when the farmer plans his homestead is utility. To save his children from making the same mistake is certainly worth while.

The influence of home and school surroundings combine to give bent to the child's inclinations. It is because the citizen in general has no right to interfere with the former that he must confine his efforts to the betterment of the latter. That is the field of activity in which everyone may interest himself. It scarcely pays to try to convince Peter Tumbledown of the error of his ways, but if we can reach his children through school environment we have solved the problem for the next generation. I believe that in nine cases out of ten where we find ideal home surroundings the one who planned the homestead was either reared in a similar home or had attractive school surroundings. Here is a broad field in which to gather convincing statistics. Give the boy the idea early in life and he will adopt it when he comes to plan a home for himself. Trust him to make the proper choice when he has the opportunity.

Like the far-reaching influence of the endless chain scheme, there is no telling what the results may be from improving and beautifying the school ground in a single district. Say what you will, the average person takes some pleasure in hearing of favorable comment on his work. Isn't it worth while, then, to so improve and beautify the school ground in your district that people who are driving by will stop to admire the pleasing effect and perhaps to dream for a moment of what they might do in their home districts? In other words, does it pay to give evidence of the progressive spirit of your community?

It is useless to deny that we are apt to judge of the interest people take in public affairs by the care they give to their public grounds and buildings. On the other hand, we are inclined to estimate the value of a particular school to the people of the district from the appearance of the schoolhouse and surroundings.

It is a matter of common comment that our people show a reprehensible and growing lack of respect for their own public property. In proof of this statement, witness the numerous printed signs, warnings and cautions that stare one in the face at every turn as he wanders over premises which he himself helped to pay for. "This is your campus; please keep to the walks," is the language of signs conspicuously posted on the grounds of an eastern college. Coupled with this lack of respect for public property is an alarming lack of respect for the rights and privileges of others—for laws which we ourselves helped to make.

Now, we do not mean to say that the remedy for the growing disrespect for public property and for law lies in the beautifying of our school grounds, but we do believe that an improvement of the conditions under which the child receives his early training will contribute to the desired result. Give him something worth respecting and he will respect it. You cannot deny that if you believe there is a spark of good in every youthful breast. Lawns, trees, shrubbery, flowers, pictures on the wall will appeal to the finer sense of even the urchin from the Bowery. If, however, the youth gets the idea, from the neglected appearance of things, that it is not worth while to beautify and care for that which is nobody's because it is everybody's, it will avail little to preach better things to him later. A citizen has been spoiled in the making.

Much stress should be laid upon the practical educational value of caring for growing things on the school ground. The future successful farmer is best developed by early training for the life he is to live, and there is no better place to give him that training than in the rural public school. In some of the agricultural states we do not seem to have caught this idea, however, and the tendency really seems to be to educate away from the farm. We have too much irrelevant book stuff. The farmer deals with nature at first hand. Her various phenomena and manifestations are his to interpret, and the primer of such interpretation should displace some of the other texts in his children's hands. The school ground, with its various groups and plats of growing things, will furnish the laboratory for their primary research. Disregarding the fact that the devious paths of nature study intersect the lines of practical agriculture at every step, the added culture and increased capacity for enjoying life, derived from such study, more than compensate for the expenditure of time and effort.

It would pay to plant trees and shrubbery on our school grounds solely for the added physical comfort of pupils and

teacher. The next time a howling wind from the northwest comes driving down over the prairies to bang the shutters about on your unprotected schoolhouse, give some thought to your children and those of your neighbor cooped up there. A snug belt of trees on the north and west would have buffeted back the fiercest of the gusts and held the drifting snow. Then, in early fall and late spring, when the sun's rays are none too mild, the shady nooks are just the places in which to build play houses or eat the noonday lunch. If you came from the better timbered regions of the East the recollections of your own early school life, spent in the little red schoolhouse nestled in the edge of a natural grove, ought to inspire you to do something to improve the surroundings under which your children learn so many of the first lessons of life.

For some reason, not plainly evident, the movement for interior adornment of the walls of school rooms, for better systems of heating, lighting, and ventilation, and for better material apparatus as aids to instruction, has outstripped the progress of school ground improvement. Hadn't we better, for a time, reverse the Biblical injunction and make clean also the outside of the platter? A sense of fitness demands that a beautiful miniature be set in a decent frame.

To give practical directions for improving school grounds would exceed the limits of this article. I have confined myself mainly to arguments in favor of adopting a policy of improvement. In a future communication I hope to present in these columns practical details and simple directions, together with an illustrated plan prepared for the consideration of a rural district in the vicinity of the College.

THEO. H. SCHEFFER.

Educational Value of Domestic Art.

What is domestic art? The making, and making artistically, of all the accessories that accentuate the loveliness of the "human form divine," that of the high priestess of the home, woman, and the creation of beautiful needlework which can be used to ornament the home.

Womankind is just beginning to realize the importance of an education along the lines of domestic art, and to appreciate the bearing it may have upon her comfort and happiness and upon the comfort and happiness of those dear to her. In all the wide field of industry which has come to be known as woman's work there is not so much as one small duty which may not be better accomplished by means of a knowledge of the art of its performance.

And upon the successful performance of these various duties depends to a large extent the tranquillity of the home and the happiness and health of those connected therewith.

Dignifying our occupation is a great step in making the most of life. We may elevate ourselves by ennobling our employment. And the first step toward ennobling our employment consists in bestowing upon it that respect which entitles it to a thorough understanding. One who has studied the art of sewing may find pleasure in the making of a gown, where her more ignorant sister might consider it a hardship should she be obliged to serve herself or others in the same way. A trained milliner may bestow upon the hat she is constructing the loving pride of an artist, where the woman who knows vastly less might speak of it as an irksome occupation.

Under a system which is carefully planned and properly carried out, learning to sew may be as educational a process as the pursuit of any other of the industrial arts. It then becomes a part of the mental as well as the manual training. By practice in needlework the hand becomes steady, dexterous, and powerful. But the eye must also be trained to observe correctly, to compare sizes and forms, and to measure spaces, in order that the worker may fix evenly, sew regularly, draw and cut out accurately, and construct properly and tastefully.

Cutting out, as a branch of knowledge in connection with needle-work, may be made the means of developing some of the intellectual faculties, for in order to cut out well it is necessary to think, to plan, to contrive, and to be accurate.

Needlework cannot be too highly prized, nor the taste for it too earnestly cultivated. The careful, ingenious thought carried into execution by active, skillful fingers must materially improve the comfort and appearance of the family. When needlework is wisely taught it develops the thrifty disposition, encourages habits of neatness, cleanliness, order, management, and industry, and may truly be considered a moral and refining influence, both in the home and in the school. Patching, darning, knitting and home-made garments are all ways and means of economizing.

It seems a pity every girl is not given a training in at least some of the branches of art as applied to every-day life. Whether or not she ever had personal need of the knowledge thus gained, it would be extremely beneficial in aiding her to comprehend the relative value of things.

There are many schools and colleges which are giving courses in domestic art, but there are not enough, nor will there be until

every girl in the land shall find it possible to gain, without other price than her own earnest effort, a full knowledge of domestic art.

ANTONETTA BECKER.

Women and Higher Education in Germany.

One frequently sees in newspapers comments on the exclusion of women from the universities of Germany, or their admission to some one university there, or a statement that exceedingly few women have the privilege of higher education in that country. Since this general idea appears so often in one form or another it might be worth while to investigate the truth of the matter.

The official reports for the last summer semester (April 15 to August 15, 1906) of the twenty-one universities in Germany show that there were 58 woman students in Freiburg, 57 in Heidelberg, 5 in Tuebingen, in Munich 55, Wuerzburg 8, Erlangen 1, and in Leipsic 27, a total of 211. Geographically considered we find 115 in Baden, 5 in Wuerttemberg, 64 in Bavaria and 27 in Saxony. Classified by subjects the division is as follows: Women studying philosophy, languages and history 66, mathematics and the natural sciences 22, political economy 10, jurisprudence 4, medicine 108, and dentistry 1.

When it is considered that all these women are regularly inscribed students—that is, are working toward the degree of doctor and that the latter degree is fully on a level with the Ph. D. degree granted by Harvard, requires a minimum of three years of study after the B. A. degree—then the total of 211 may not seem insignificant. The further fact that in the Swiss universities, which with the Austrian are usually classed with the German, the proportion of woman students is much greater than in Germany itself might serve to strengthen this view.

In addition to the regularly inscribed woman students mentioned above there were women in attendance as "hearers" at twenty of the twenty-one universities of Germany. The attendance by universities was as follows: Berlin 387, Bonn 123, Breslau 111, Freiburg 26, Giessen 24, Goettingen 115, Greifswald 7, Halle 45, Heidelberg 34, Jena 60, Kiel 38, Koenigsberg 49, Leipsic 71, Marburg 28, Munich 34, Muenster 6, Rostock 10, Strassburg 55, Tuebingen 47, and Wuerzburg 4, a total of 1274. The sum of the two classes of woman students is 1485.

Furthermore, the Germans on the one hand and the English and Americans on the other use the term university in quite different senses. We of course mean by the term a collection of colleges at each of which the degree of bachelor is given to a stu-

dent on graduation from that college. The fact that the degree of M. A. and that of Ph. D. may be obtained there is simply incidental. Broadly speaking, the American college corresponds in general to the highest four classes in the German gymnasium. In every city of any size one will find at least one gymnasium for women; Heidelberg, for example, with its fifty thousand inhabitants, has one of these and it is well attended. The attendance at the gymnasia for young women (Maedchen Gymnasien) in Germany certainly would be counted by the tens if not by the hundreds of thousands.

When one reads, therefore, that the number of woman students (Studentinnen) at the German universities amounts to about two hundred only, he should add to this number some thirteen hundred for the woman "hearers" (Hoererinnen), and since the American college is almost invariably drawn into the comparison the many thousand members of the four higher classes of the woman's gymnasia must be regarded in making out the grand total.

JOHN V. CORTELYOU.

The College Herd Did Well.

The State Agricultural College secured a good slice of the premium money and honors as a result of the showing of fat steers at the International Live-Stock Show in Chicago last week. Ten head of steers were shown, winning in all five first premiums, three second, one third, two fourth, one championship, and one reserve championship. In the pure-bred Shorthorn 2-year-old class the white steer, Tim, won first place easily in a class of eleven head. In the yearling class the smooth, blocky steer, Captain Primrose, secured fourth place. The College calf, Colonel Harriman, did not get inside the money in the open calf class, which was one of the strongest classes of the Shorthorn show. In the senior calf special of the Shorthorn association, Colonel Harriman won fourth place. The College herd took second place on the Shorthorn herd with Tim, Captain Primrose, and Colonel Harriman.

In the open cross-bred and grade classes for 2-year-olds the grade Angus, Kansas Laddie, of the College, was walked to the head of a herd of twenty-nine entries. In the Shorthorn special for 2-year-old grades, Pride of the Maples took third place. Pride of the Maples also won first in the Shorthorn special, beating Tama Jim, Jr., a blue gray shown by the Iowa college. Boniface, shown by the K. S. A. C. in the senior calf class, won second place in the Shorthorn special for senior grade calves.

The College won first in grade Shorthorn herd, with the steers Landor, Pride of the Maples, and Boniface. In the calf class the College had an exhibit in the calf Ideal, winning first place.—*Mercury.*

Cattle Sales.

For the purpose of giving our students a chance to see and judge a variety of improved stock, the College has permitted the following Kansas breeders to bring their herds to the College and sell them in the stock-judging arena in the stone barn.

On January 5, during the State institute and corn breeders' meeting, J. G. Arbuthnot, of Republic county, will sell Hereford cattle. Grant Arbuthnot will be remembered by some of the old-timers around the College. He was a student in '89 and '90, and is now one of the big ranchers and farmers of Republic county.

February 27, G. E. Avery, of Wakefield, will sell Aberdeen-Angus cattle. Mr. Avery is a former student of the College and one of a family of noted breeders in Clay county.

March 19 will be a sale by T. K. Tomson & Sons, who will sell Short Horns from their famous Dover herd. They are among the biggest breeders in the West.

All of these sales are to be held in the sales pavilion at the College and will be conducted by Colonel Brady, of Manhattan, who is well known as a veterinarian and salesman. Steam heat has just been provided and new seats ordered, which will be in place by January 1.

Football at K. S. A. C.

The Agricultural College has once more demonstrated this term that an athletic team can be strong and yet be perfectly clean in every respect. Not a game was played that ended in a dispute; not a man played who was not a bonafide student; not a team came here that was not well treated and entertained. Following is the season's record of the College football team:

K. S. A. C.....	10	Haskell.....	5
K. S. A. C.....	35	College of Emporia.....	0
K. S. A. C.....	4	Washburn.....	5
K. S. A. C.....	6	Fairmount.....	12
K. S. A. C.....	32	Ottawa	11
K. S. A. C.....	6	K. U.....	4
K. S. A. C.....	10	K. S. N.....	0
Total.....	103	Total.....	37

THE INDUSTRIALIST

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Local Notes.

The annual meeting of the Manhattan Horticultural Society will be held at Horticultural Hall on Thursday, December 20, 1906, at 3 o'clock P. M.

The annual senior-freshman football game came off Thursday afternoon at the College athletic field and resulted in a score of 10 to 5 in favor of the seniors.

The Kansas State Agricultural College team made the highest general average in swine judging at the International Stock show at Chicago, and stood fourth in the contest on all animals.

Cards are out announcing that Prof. George Potter Jackson and Miss Emeline Wright will be married, December 27, at the home of the bride at 36 Ludington Avenue, Wamatos, Wis. The INDUSTRIALIST congratulates.

The basket-ball squad has commenced practice in the K. N. G. armory. The prospects are good for a winning team this year. The Fort Riley team played here on December 13, with a score of 54 to 16 in favor of the College. Washburn is advertised for the 18th.

Several professors and assistants have commenced the study of the world language "Esperanto" and report rapid progress. It is claimed that a person who has a grammatical knowledge of more than one language can learn to translate Esperanto in less than a week.

Prof. J. D. Walters has quite an interesting article in the last issue of the INDUSTRIALIST on "The Cement Block Industry," and makes the suggestion that they be used as veneering for frame building, as is now done with pressed brick, for fire protection.—*Nationalist*.

Editor S. W. McGarrah, of the weekly Manhattan *Nationalist*, has sold his interest in the paper to E. M. Gilbert, late of Washington state, formerly a member of the firm of Montgomery, Gilbert & Moore, publishers of the Junction City *Union*. The firm is now Lyons & Gilbert.

Program for morning Chapel Exercises, College Auditorium
December 21, 1906:

Prelude, "Cavaleria Rusticana," Mascagni.....Orchestra
"Oh holy Night," Adams.....H. E. Porter
Scripture reading and Prayer.....Prof. William A. McKeever
"Halleluia Chorus, Messiah," Händel.....Choral Union
Remarks.....Pres. E. R. Nichols
"On to Victory," Sousa.....Orchestra

Miss Marguerite Barbour entertained her class in physical training at a "holiday frolic" Monday afternoon at the girls' gymnasium. Light refreshments were served and a delightful afternoon spent by the young women.

Asst. Prof. V. M. Shoesmith, of the Agronomy Department, and family left Tuesday for Maryland, where he has been elected to a position in the state agricultural college. The professor came here as an assistant six years ago from Michigan, where he had just graduated from the agricultural college. He made friends from the start, worked hard and persistently, and showed good judgment in everything he did. We regret to see him leave and predict for him a career of rapid growth.

The boys' corn-growing contest of Riley county was held Saturday in the Manhattan Commercial Club Hall. Fifty boys entered into the contest and the corn on exhibition was of very high grade. About two hundred farmers were present and listened to a program consisting of addresses by leading farmers, citizens and members of the College Faculty. In the evening prizes amounting to \$53 were distributed among the first twelve juvenile corn farmers, and a permanent corn club was organized.

Faculty Lane is growing right along. Professors McKeever and Hamilton have moved into their new residences. Professor Brink will move into his next week. Professor Eyer has made contract for his residence and has started work, and Professor Cortelyou and Assistant Dean are perfecting their plans. The water mains and sewer lines have been laid, several cement front walks have been constructed, and the "Latin Quarter" of Manhattan is beginning to assume truly metropolitan airs.

The College Dairy receives per week something over 1000 pounds of milk from the College herd and about six hundred fifty pounds of separated cream from outside parties. Most of the milk is sold to students and student boarding houses, while the cream is churned three times per week, producing about 220 pounds of butter. The milk is sold at 4 cents per quart, the 20 per cent cream at 20 cents, the 40 per cent cream at 40 cents, and the butter at 30 cents per pound. The buttermilk is sold at 5 cents per gallon and finds a ready sale.

Miss Antonetta Becker, superintendent of the Department of Domestic Art, has prepared a very fine exhibit of the fall-term work of her classes. The exhibit will be on the tables and walls of her class rooms, in the Kedzie Hall, Wednesday afternoon, December 19. Miss Ella Weeks, of the Department of Architecture and Drawing, has transferred the exhibit of color work and drawing of her classes, which was advertised last week, to the same quarters in Kedzie Hall. These exhibits, showing the work of the same classes of young women, chiefly the first-term class of the short course, are very fine and complete and are certainly worth visiting. We wish we could promise that the exhibits might be left intact during the State institute.

The Department of Zoölogy has lately received two fine specimens of *Lepus canipestris* (the plains jack-rabbit) from Chas. A. Leger, Hugo, Colo. This rabbit is very rare in Kansas. It differs from the common jack-rabbit in that it is two to three pounds heavier and has a perfectly white and somewhat larger tail.

The Dairy Department is experimenting with lactic acid as a substitute for the commercial cream culture formerly used to ripen cream. The lactic acid method costs less and greatly shortens the time of ripening. The new method bids fair to supersede the old as the quality of the new process butter does not seem to be inferior. Professor Erf, who first introduced this method of ripening, has promised to write an article on the subject for the next issue of the INDUSTRIALIST.

The dates for farmers' institutes in December are as follows; Stockton, December 3 and 4, Professor Dickens; Cawker City, December 5, Professor Dickens; Alma, December 3, Professor McCormick and Mr. Miller; Lyndon, December 4, Professor McCormick and Mr. Miller; Cottonwood Falls, December 5, Professor McCormick and Mr. Miller; Marion, December 6, Professor McCormick and Mr. Miller; Frankfort, December 8, Professor TenEyck; Manhattan, December 8, Professors Shoemith and Calvin and Assistant Scudder; Sedan, December 10, Professor McCormick and Mr. Miller; Independence, December 11, Professor McCormick and Mr. Miller; Oswego, December 12, Professor McCormick and Mr. Miller; Pittsburgh, December 13, Professor McCormick and Mr. Miller; Osawatomie, December 14, Professor McCormick and Mr. Miller; Spring Hill, December 15, Professor McCormick and Mr. Miller.

The INDUSTRIALIST informed its readers a short time ago of the annual donation of \$5000 by J. O. Armour, for the purpose of founding scholarships in agricultural colleges, with the provision that the donation shall go to the schools that lead in the annual stock-judging contest at the International stock show at Chicago. Another firm has since then offered to give a thousand dollars for a similar purpose. In order to give evidence of their appreciation of the work being done by the agricultural colleges, Rosenbaum Bros., engaged in the live-stock business at the Union Stock Yards, Chicago, are putting up purses comprising one thousand dollars to be competed for annually at the Exposition in the following manner: The breeders and feeders of any state carrying off the highest number of awards will cause the agricultural colleges of such state to receive \$500 in cash, the second \$300 and the third \$200, this money in turn to be used under the direction of the deans, professors of animal husbandry and professors of agriculture of the winning colleges as premiums to successful students in judging contests of live-stock and grain at the winter "Farmers'" short course in agriculture, or as prizes on live-stock at these short courses. This is a most generous indorsement of the work of the agricultural colleges. It will do a great good in the field of agriculture and live-stock.

The Athletic Association has elected officers as follows: President E. S. Taft; vice-president, O. O. Morrison; secretary, A. G. Kittell; treasurer, Professor Cortelyou (reëlected); general manager, Assistant Dean (reëlected); football manager, H. D. Strong; members of board of directors, Elmer Bull and Ira Wilson; football committee, Assistant King and Herman Praeger; baseball committee, Professor Eyer and S. W. Cunningham; track committee, Professor Hamilton; tennis committee, Assistant Seaton and Robert Berkeley; basket-ball committee, Assistant Halstead and B. H. Wilber. A vote of thanks was tendered Manager Dean for his year of efficient management.

Alumni and Former Students.

Frank Shelton, '99, is engaged in mercantile business in Ketchikan, Alaska.

F. L. Courter, '05, took the second prize on corn at the recent exhibit at Downs.

J. N. Bridgman, '91, is now located at Revere, Mo., where he is in charge of engineering work connected with double-tracking the Santa Fe railway.

Fred Fockele, '01, of Waverly, was recently elected chairman of the executive committee of the eastern division of the Kansas Bankers' Association.

C. R. Pearson, '94, one of the farmers of Sheridan county, received the endorsement of those who know him best by reëlection as county treasurer last month.

Geo. W. Bemis, special student in 1901, is prospering at farming near Cawker City. He has the foundation of a herd of pure-bred Shorthorns, as well as a nice lot of grades.

Otto Weyer, student in 1901, is tilling the ancestral farm near Baileyville, which has been occupied by the family for fifty years. He is perfecting plans for a new orchard, though hog-raising is his specialty.

F. C. Burtis, '91, and Louise (Daily) Burtis, '93, entertained the editor in a most hospitable and charming manner during his short stay in Muskogee, Okla. They are just getting settled in their new home, and Mr. Burtis is becoming familiar with his new business of wholesale buyer and shipper of fruit and produce. Muskogee is one of the best cities in the to-be new state of Oklahoma, having made great and substantial growth within the last few years.

J. T. Willard, '83, dropped off between trains at Wagoner, I. T., and visited S. S. Cobb, '89, and Carrie (Hunter) Cobb, second-year in 1888. He found them very prosperous, with five healthy, happy, little ones growing up. Mr. Cobb is serving his fourth year as postmaster on the present appointment and has large land interests in the vicinity. He is also the publisher of the *Wagoner Record*, owns one of the best business blocks of the town, and is evidently one of its solid men.

H. C. Cobb, third-year student in 1892, of Muskogee, I. T., is doing a large and lucrative business in drugs, toys, and fancy goods. He is treasurer of the city and as such is responsible for some two hundred thousand dollars.

E. C. Parker, student in 1888, with his wife and daughter visited relatives, friends and the College this week. They were on the way from St. Louis to Clay Center, Kan., their future home, where Mr. Parker will operate the linotype for the *Clay Center Dispatch*.

We are indebted to Mary (Waugh) Smith, '99, for the account of the organization of the Northwest Alumni Association. She is very busy getting ready for a trip to southern California with Mr. Smith. They will start early in January and be gone for a couple of months.

THE NORTHWEST ALUMNI ASSOCIATION.

At a meeting at 207 North Harvard, Seattle, on the evening of December first, "The Northwest Alumni Association of the Kansas Agricultural College" came into being. We believe it will grow in spite of its name. After considerable visiting, the meeting was called to order by Prof. E. O. Sisson, '86, who acted as temporary chairman. As soon as the club was organized and named it was decided to have a president and secretary, and F. M. Jeffery, '81, our oldest alumnus, became president. Mr. Jeffery's election was followed by an entertaining talk, after which Mary (Waugh) Smith, '99, the last of the club to graduate, was elected secretary. It was decided to hold two meetings yearly, supposedly one banquet and one picnic. It was further decided that upon invitation from any member of the club all who could would meet at his or her home at almost any time.

The Northwestern Alumni will consider all former students eligible to membership, and husbands and wives of graduates and former students are honorary members. The following were present at the organization: F. M. Jeffery, '81, and wife; E. O. Sisson, '86, and wife; Chas. J. Dobbs, '90, and Nellie (Little) Dobbs, '90, with Gene and Charlotte Dobbs; H. E. Moore, '91, and wife; Sadie (Moore) Foster, '94, and husband; C. C. Smith, '94, and Florence (Beverly) Smith; John A. Rokes, '93, and wife; Alfred C. Smith, '97; and Mary (Waugh) Smith, '99; Chas. H. Jeffery, student '72 to '74; Walter E. Mitchell, student in 1889, wife and two sons and a daughter; Prof. E. M. Shelton, eighteen years professor of agriculture at the College, and Mrs. E. M. Shelton; Miss Elizabeth Burnham, student in 1899; Mrs. Robert Duffy and Miss Gertrude Duffy. Regrets were received from Walter D. Duffy, student in 1896, Robert W. Duffy, and Mr. and Mrs. Wm. Shelton. Mr. Shelton was farm foreman for some years. A number joined "by letter" with the promise of being present at the next meeting. These are: Marie B. (Senn) Heath, '90; Dr. E. C. Joss and Miriam (Swingle) Joss, both of '96; R. A. McIlvaine, '92; Mattie (Farley) Carr, '89; and Mrs. Mina J. Mead, student in the eighties, now wife of Governor Mead of this state. It is expected that many more will be present at the next meeting.

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| OLOF VALLEY, B. M. (Chicago Conservatory)                            | Professor of Music                          |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College)                   | Professor of Veterinary Science             |
| ROLAND J. KINZER, B. S. Agr. (Iowa State College)                    | Professor of Animal Husbandry               |
| JOSHUA D. RICKMAN, (I. T. U.)                                        | Superintendent of Printing                  |
| BENJ. S. MCFARLAND, A. M. (Miami)                                    | Principal Preparatory Department            |
| MISS MARGARET J. MINIS, B. S. (K. S. A. C.)                          | Librarian                                   |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.)             | Director of Physical Training               |
| MISS ANTONETTA BECKER (Drexel)                                       | Superintendent of Domestic Art              |
| <hr/>                                                                |                                             |
| MISS LORENA E. CLEMONS, B. S. (K. S. A. C.)                          | Secretary                                   |
| <hr/>                                                                |                                             |
| JACOB LUND, M. S. (K. S. A. C.)                                      | Superintendent Heat and Power Department    |
| JOHN H. MILLER, A. M.                                                | Superintendent Farmers' Institutes          |
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| JOHN O. HAMILTON, B. S. (Chicago)                                    | Assistant Professor of Physics              |
| ANDREY A. POTTER, S. B. (Mass. Inst. Tech.)                          | Asst. Professor of Mechanical Engineering   |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)     | Asst. Professor of Music                    |
| VERNON M. SHOESMITH, B. S. (Mich. Agr. College)                      | Assistant Professor of Agronomy             |
| ROY A. SEATON, B. S. (K. S. A. C.)                                   | Assistant Professor of Mathematics          |
| BENJ. R. WARD, A. M. (Harvard)                                       | Assistant Professor of English              |
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| Miss Daisy Zeininger, B. A. (Fairmount)                              | Instructor in Mathematics                   |
| George F. Freeman, B. S. (Ala. Polytech. Inst.)                      | Instructor in Botany                        |
| Geo. C. Wheeler, B. S. (K. S. A. C.)                                 | Instructor in Animal Husbandry              |
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| Geo. A. Dean, M. S. (K. S. A. C.)                                    | Instructor in Entomology                    |
| Robert E. Eastman, M. S. (Cornell University)                        | Instructor in Horticulture                  |
| Miss Ula M. Dow, B. S. (K. S. A. C.)                                 | Instructor in Domestic Science              |
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| Miss Gertrude Barnes                                                 | Assistant Librarian                         |
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| Chas. Yost                                                           | Assistant in Heat and Power Department      |
| Earle B. Milliard                                                    | Foreman of Blacksmithing                    |
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| Miss Leila K. McCotter, B. S. (Michigan)                             | Assistant in Mathematics                    |
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| E. G. Meinzer, A. B. (Beloit)                                        | Assistant in German                         |
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| Miss Marjorie Russell (Mechanics' Institute)                         | Assistant in Domestic Science               |
| Herbert F. Bergman, B. S. (K. S. A. C.)                              | Assistant in Botany                         |
| C. A. Willson, B. S. (Mich. Agr. College)                            | Assistant in Animal Husbandry               |
| Burton Rogers, D. V. M. (Iowa State College)                         | Assistant in Veterinary Science             |
| Henry D. Scudder, B. S. (Illinois)                                   | Assistant in Agronomy                       |
| Miss Clara Willis (Framingham Normal)                                | Assistant in Domestic Science               |
| C. O. Swanson, M. Agr. (Minn.)                                       | Assistant Chemist, Experiment Station       |
| Herbert H. King, M. A. (Ewing College)                               | Assistant in Chemistry                      |
| Edw. C. Crowley, Ph. B. (Yale)                                       | Assistant in Chemistry                      |
| Hugh Oliver                                                          | Assistant in Heat and Power Department      |
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| Miss Jessie Reynolds, A. B. (K. U.)                                  | Assistant in Preparatory Department         |
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| —                                                                    | Assistant in Dairy Husbandry                |
| —                                                                    | Assistant in Mechanical Engineering         |
| Miss Alice M. Melton, B. S. (K. S. A. C.)                            | Clerk in Chemical Department                |
| William R. Lewis                                                     | Janitor                                     |

# THE INDUSTRIALIST.

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## ***State Farmers' Institute and Allied Conventions.***

During the past two years the farmers' institutes held throughout the State have created a very marked desire on the part of several hundred farmers for more specific instruction than could be given at a county meeting. Early last year the Regents decided to hold a State institute to last nine days and to offer specific instruction in two subjects this year and probably either different subjects or additional subjects next year. The first State Farmers' Institute ever held in Kansas was held at the Kansas State Agricultural College, Manhattan, Kan., from December 27, 1906, to January 5, 1907, and classes were offered in grain judging and stock judging under Prof. A. M. TenEyck and Prof. R. J. Kinzer. While there was a very decided interest throughout the State in this institute, the attendance was not nearly so large as was expected, the enrolment reaching only one hundred forty-two for the nine days' work. Probably a dozen others entered about the first of the meeting but did not take regular work. The work began promptly at eight o'clock on Thursday morning, December 27, and four hours on that day and two hours on Friday were devoted to sheep judging, and four two-hour sessions were later given to hog judging. The first three days, Thursday, Friday, and Saturday, were used wholly by the institute—stock judging from eight to ten and one to three, and grain judging from ten to twelve and three to five, enabling the members to do a great deal of practical work. This institute continued until Saturday noon, January 5, with Monday, Tuesday and Saturday devoted to judging cattle, Wednesday and Thursday to judging draft horses, and Friday morning again to judging hogs. Professor TenEyck and his assistants were able to give eight or ten judging drills of two hours each in corn and small grains in addition to three two-hour lectures by Professor TenEyck on "Corn Growing."

### **BOYS' CORN CONTEST MEETING.**

Then on Monday, the first of seven important State meetings was held, the Boys' Corn Contest Association convening Monday afternoon, with a session on Monday evening with an address by



Director Burkett of the Experiment Station and Mr. Joseph E. Wing of the *Breeders' Gazette*. Director Burkett spoke earnestly of the importance of scientific study of agriculture, of the necessity of boys and men studying carefully the problems of soil and soil culture, and emphasizing the importance and necessity of teaching agriculture in the rural schools. Mr. Wing gave a very entertaining talk, giving reminiscences of his own life, from his early boyhood experiences on a farm in Ohio, ranch life in Colorado, and then back to the old Ohio farm, where he still lives. This was an unusually interesting address, full of good, practical thought for all who heard it.

On Tuesday morning the boys were given a two-hour drill in corn judging, followed by a practical talk by Professor TenEyck, in which he urged the boys to study not only corn but all grains, with an eye to development; that to the boys he meant to look for progress in corn growing. This was followed by the awarding of prizes for the boys, and the following is a list of prize takers and their premiums:

First prize, J. M. McCray, Riley county, \$50 cash, contributed by Mr. Arthur Capper, publisher *Topeka Capital and Mail and Breeze*.

Second prize, Paul Gilman, Leavenworth county, Midland two-row cultivator (value \$50), contributed by Midland Cultivator Company, Tarkio, Mo.

Third prize, Julian Clark, Labette county, corn planter (value \$40), contributed by W. S. McAuley and others.

Fourth prize, Frank Haucke, Morris county, Perfection fanning mill (value \$35), contributed by Lewis-Tuttle Company, Topeka, Kan.

Fifth prize, Grant Jenkins, Cowley county, disk harrow (value \$30), contributed by John Deere Plow Company, Kansas City, Mo.

Sixth prize, Lloyd TenEyck, Riley county, ten bushels Hildreth corn (value \$25), contributed by C. E. Hildreth, Altamont, Kan.

Seventh prize, Everett Hamilton, Jackson county, eight bushels Legal Tender corn (value \$20), contributed by G. E. Hollister, Sabetha, Kan.

Eighth prize, Earl Garrett, Bourbon county, walking plow (value \$16), contributed by John Deere Plow Company, Kansas City, Mo.

Ninth prize, Arnold Brooks, Labette county, corn grader (value \$10), contributed by Lewis-Tuttle Company, Topeka.

Tenth prize, Jerry Howard, Sumner county, \$5.00 cash, contributed by W. R. Hildreth, Altamont, Kan.

#### THE KANSAS CORN BREEDERS' ASSOCIATION.

This new and very important organization held its first session Tuesday afternoon, with addresses by Director Burkett, of the Kansas Experiment Station, and Prof. E. G. Montgomery, of the University of Nebraska. On Tuesday evening Prof. M. F. Miller, of the University of Missouri, addressed the association on "Corn Yield Comparisons," showing how different varieties had been

developed under different methods of culture and breeding. This was preceded by a stereopticon lecture by Professor Ten Eyck on "Root Growths." On Wednesday morning Professor Popenoe addressed the association on "Insects Injurious to Corn," and this was followed by an address by Prof. M. F. Miller, of the University of Missouri, on the "Qualities of the Ear of Corn that go to Make a High Yield." This was followed by the announcement of prizes in the corn contest and the sale of the prize corn. The following is a list of the prize takers and the prizes awarded:

## PRIZES FOR WHITE CORN.

First prize, S. G. Trent, Hiawatha, Deere No. 9 corn planter (value \$42).

Second prize, John D. Ziller, Hiawatha, alfalfa seed and \$5 cash (value \$30).

Third prize, Jack Dial, Garrison, Avery cultivator and \$5 cash (value \$20).

Fourth prize, Edward Grubb, Neosho Falls, teaspoons and \$5 cash (value \$16).

Fifth prize, Roy Gilman, Leavenworth, wool blankets (value \$5).

## PRIZES FOR YELLOW CORN.

First prize, W. R. Hildreth, Altamont, Black Hawk corn planter (value \$42).

Second prize, L. V. Sanford, Oneida, selected seed-corn and \$5 cash (value \$30).

Third prize, John Lind, Saffordville, double-barrel shot-gun and \$10 cash (value \$22).

Fourth prize, E. R. Sanford, Oneida, single buggy harness and \$5 cash (value \$15).

Fifth prize, S. G. Trent, Hiawatha, Stetson hat (value \$5).

## KANSAS GOOD ROADS ASSOCIATION.

Immediately following the calls of the Corn Breeders' Association, the State Good Roads Association convened, holding its sessions on Wednesday afternoon, Wednesday evening, and Thursday morning. The principal address of the afternoon was by Hon. G. E. Cooley, State Highway Engineer for Minnesota, representing the United States Office of Public Roads. The subject was "Road Building." Dean Marvin, of the University of Kansas, read a paper by Asst. Prof. W. C. Hoad, dealing with water drainage and the construction of culverts. In the evening Prof. E. B. McCormick, of the College, gave an address on "Bridges and Culverts," illustrated by stereopticon views. Secretary Graham read a paper by Hon. Edwin Snyder on "Good Roads Laws." This was followed by a discussion led by President Nichols and G. E. Cooley, showing a very great interest in the necessity of having some definite legislation in order that beginnings might be made in good roads. The convention seemed to favor the adoption



of the Iowa law, which would make the Kansas Agricultural College the highway commission for Kansas, the work then to be delegated by the Board of Regents to two men connected with the College, and that committee to draft plans and specifications for bridges, roads, etc., and supervise the initial work, and later, when necessary, employ a special engineer. The following officers were elected: President, Hon. Bradford Miller, of Topeka; secretary-treasurer, Prof. Albert Dickens, Manhattan; assistant secretary, Mr. Clarence Skinner, Topeka; vice-presidents, H. B. McAfee, Topeka; J. T. Tredway, Iola; E. B. Schermerhorn, Galena; W. S. Williamson, Emporia; Geo. Stevenson, Waterville; I. E. Lloyd, Ellsworth; O. Kinnison, Garden City; Col. J. W. Robison, El Dorado.

#### KANSAS DRAFT HORSE BREEDERS' ASSOCIATION.

Realizing the need of an organization of the horse breeders of the State, not only for the advancement for the industry, but for some necessary legislative protection, Prof. R. J. Kinzer, of the Animal Husbandry Department of the College, issued a call some months ago for the first meeting of the Kansas Draft Horse Breeders in connection with other meetings here, for the purpose of effecting an organization and for the purpose of discussing other important subjects. Very much to the surprise of all there was an unusually large number of men present, and a large enrolment of members was had for the new organization. They held meetings on Wednesday afternoon, Thursday afternoon and Thursday evening, addresses being made and discussions given on "Needed Legislation," "The Feeding and Developing of Colts," and "Important Principles in Breeding." The speakers for the different meetings were Prof. R. J. Kinzer, Mr. G. A. Gifford, Beloit; S. C. Hanna, Howard; Hon. J. W. Robison, El Dorado. Officers elected were as follows: Mr. H. W. Avery, Wakefield, president; Prof. R. J. Kinzer, Manhattan, secretary; Mr. G. C. Wheeler, Manhattan, treasurer.

#### KANSAS DAIRY ASSOCIATION.

The dairy industry in Kansas is becoming one of the very greatest in the State, and to-day one that promises to yield greater returns to Kansas farmers than almost any other branch of agriculture. The convention held sessions Thursday afternoon, Thursday evening, and Friday morning. The subjects for discussion for Thursday afternoon were: "The Farm and the Dairy Cow," "The Dairy for Profit," and the "Special or Dual-purpose Cow." This was followed by a visit to the Dairy Barn to inspect the work of the milking machine. On Thursday evening ad-

dresses were made by Hon. R. W. Washburn, state dairy commissioner for Missouri, on the "Necessity of State Supervision," and by Hon. E. H. Webster, Chief of Dairy Division, Department of Agriculture, Washington, on "The Economic Value of the Dairy." On Friday morning a paper and discussions were had on "Modern Dairying Methods," "How to Interest Farmers in the Dairy Business," "Dairying a Factor in Economic Agriculture," these followed by a most entertaining and helpful address by Hon. W. W. Marple, of Chicago, on "Giving the Boy a Square Deal."

#### SWINE BREEDERS' MEETINGS.

While there is a State Swine Breeders' Association holding its annual meeting in Topeka, it was felt here at the College that such a meeting was rather too far off from the practical things of the swine breeders' needs, hence, invitations were given some time ago to the following special associations: Poland-China breeders, Berkshire breeders, and Duroc-Jersey breeders. The officers of these separate organizations were very greatly interested in the idea and issued urgent calls for all their members to attend the meetings here. Each set of breeders held one or two special meetings, and then Friday morning and Friday afternoon were devoted to a general program of interest to all swine breeders. Special drills in hog judging were given, and all swine breeders who came felt that they had received treble value—the meeting together of their own members, the practical drills in hog judging, and the very valuable discussions at the general meetings. At these general meetings on Friday, papers and discussions were upon the following subjects: "Shows and Fairs," leader, M. G. Hamm, secretary, Duroc-Jersey Breeders; "Establishing a Type and Herd," leader, J. W. Berry; "Some Fundamentals in Breeding and Feeding," leader, Prof. G. C. Wheeler; "The Advertising Problem," leader, J. T. Stoddard. Then an hour was given to the general discussion of hog cholera—a subject never omitted from swine breeders' programs. This was followed by a very interesting talk by Mr. J. M. Hazelton, of Kansas City, on "The Relation of the Producer to the Packer."

#### ABERDEEN-ANGUS ASSOCIATION.

While the breeders of Aberdeen-Angus cattle are not quite as numerous as those of some other breeds, they are surely about the most enthusiastic, and number among their members some of the greatest stockmen in the State. A special call was issued by the Animal Husbandry Department of the College for the organization of the Aberdeen-Angus Breeders, and a goodly number of



the breeders of Aberdeen-Angus cattle were present to listen to the discussions and to the reading of papers. A sort of flank movement was employed on Friday afternoon and the Aberdeen-Angus program was attached to the swine breeders' program, and those swine breeders, no matter what breed of cattle they were raising, had the pleasure of listening to two of the finest papers read during the week—"Why I Prefer the Aberdeen-Angus," Mr. Geo. Stevenson, of Waterville, president of the American Aberdeen-Angus Association, and "The Aberdeen-Angus on the Range," by Mr. Chas. Sutton, of Lawrence, probably the original breeder of registered Aberdeen-Angus cattle in Kansas. Certainly if every man present doesn't begin to look longingly towards the "bonny blacks" it was no fault of those two papers. These papers were followed by a very practical discussion of the "Relation of the Association to the Sales of Stock," by Mr. F. D. Tomson, of the *Breeders' Gazette*, Chicago. On Saturday morning all of the breeders of Aberdeen-Angus cattle and others interested were given a two-hours' practical drill in judging this type of cattle.

#### ARBUTHNOT HEREFORD SALE.

The ending of the very busy nine-day institute came with a big sale of the fine Hereford cattle. While the men who were here for the institute did very little if any buying, they stayed for the opportunity of seeing the good cattle and for meeting the prominent buyers who came to the sale.

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#### ***Report of Farmers' Institute Department.***

In October, 1905, the Board of Regents of the State Agricultural College decided to inaugurate a special campaign in farmers' institute work. For many years the College had been assisting in holding farmers' institutes in various parts of the State, going only on invitation. At this meeting in October, 1905, the Regents decided to employ a superintendent of institutes, who was authorized to hold meetings in every county in the State. As no further directions nor suggestions were made, the newly elected superintendent decided to carry out the program for the campaign on the plan of emphasizing certain subjects in certain portions of the State, for a limited time, say one or two years, and then introduce other subjects, making a sort of intensive educational campaign. It seemed that the most important subject for all of the East half of the State was "Corn Breeding," hence this was made the leading subject at all of the institutes held from October, 1905, until January, 1907, it being the subject of an address by some repre-

sentative from the College at 165 farmers' meetings, not including more than 100 lectures on the Rock Island "corn and wheat" train in November, 1905.

In carrying out this campaign, it was further decided to inaugurate a "boys' corn-growing contest," to which 47 counties responded, and nearly 5000 boys were organized into corn-growing contests in the spring of 1906. These contests and the subsequent exhibits and addresses on the subject of corn breeding have awakened a profound interest among farmers and business men generally. There is no question but that it will result in largely increasing the yield and improving the quality of the corn in Kansas. Addresses on corn breeding have been made at farmers' institutes or on the Rock Island "corn and wheat train" in every county east of the 98th meridian of longitude, including the counties through which that meridian passes, and in five counties west of that line of counties.

In western Kansas wheat culture has been emphasized as the leading subject, and addresses have been made on it at farmers' meetings and on the Santa Fe and Union Pacific "wheat trains," and Rock Island "corn and wheat" train in every county west of the 98th meridian, including those through which that meridian passes, except Finney, Kearney, Wichita, Cheyenne, and Rawlins, and in twenty counties east of that meridian.

Representatives from the College have also spoken in various parts of the State, where the work seemed fitting, on Domestic Science, Alfalfa, Hog Breeding, Dairying, Stock Feeding, Fruit Culture, Insect Pests, Soil Fertility, and Road Building. Special work has been done in districts where there was interest in fruit, in explaining to farmers the necessity of spraying fruit trees, and there has also been some actual demonstration of the methods of doing this work.

Farmers' institutes have been held in 89 counties in Kansas since October, 1905, and over 70 counties have been regularly organized according to the Kansas law. From July 1, 1905, to July 1, 1906, 155 farmers' institutes were held, with an attendance of 27,300. Speakers from the College in the summer of 1905 also made agricultural addresses at 14 general meetings, audiences aggregating 10,000. In November, 1905, the College arranged with the Rock Island Railway Company for the conducting of a "corn and wheat" train over the entire system in Kansas, making 135 stops, with audiences aggregating something over 10,000, making a total of 47,300 people addressed on agricultural subjects from July 1, 1905, to July 1, 1906. From July 1, 1906, to Jan. 1, 1907,



ninety-four institutes were held, with a total attendance of 21,500 people, and addresses on corn breeding were made at 65 of these meetings. In August, 1906, arrangements were made with the Santa Fe Railway Company for a "wheat train," covering the southwestern lines in Kansas, and this started on August 13 and was continued for six days, with an aggregate attendance of 7100 people. Two weeks later a similar train was conducted for the College by the Union Pacific over their western lines, and in four days the audiences numbered 3840 people, or a total of 32,440 people, to hear the educational addresses from College speakers, from July, 1906, to January, 1907. Special attention should be called to the series of 12 meetings held in Southwestern Kansas in connection with the United States Department of Agriculture. In six of these meetings the superintendent of institutes was assisted by Mr. M. A. Carleton, grain specialist, and in charge of "Dry Land Grain Work" for the Department. Meetings were held at Syracuse, Johnson, Richfield, Hugoton, Ulysses, and Santa Fe. For the next six meetings assistance was rendered by another government specialist, Mr. A. H. Leidigh, who is in charge of the government "Dry Land" work at Amarillo, Texas. At each meeting, the representative of the Department of Agriculture spoke on "Dry Land Farming." These meetings were largely attended by the new settlers in these counties, and permanent institutes were organized.

The amount of work that has been done so far, the total attendance at all meetings since October, 1905, aggregating over 75,000 people, and touching practically every county in the State, only serves to emphasize the great value that ought to come from more intensive work, and shows what ought to be done to give more specific instruction and to carry more minutely to the farmers of Kansas the results of the experiments made at the State Experiment Stations. To secure the best results enough money should be provided to enable the College to employ more people to do regular institute work, instead of taking the heads of departments away from their regular duties in the College. A larger appropriation for this work would enable the College to send, into the different counties of the State, trained workers, not only to give instruction but to demonstrate the methods that have been tested and proved by the heads of the different departments of the Experiment Station.

The State Farmers' Institute held here at the College from December 27, 1906, to January 5, 1907, with its allied conventions, with other practical demonstration work and discussions, is a

fitting culmination to the work that has been done during the past two years. The possibilities of this State Institute are very great, leading to practical instruction along lines of work where the county institute has before prepared the way and opened the mind to receive further and more specific instruction. The success of this State meeting has been so great that the farmers of Kansas will want a similar meeting every year in order to come to the College for definite instruction in various subjects, especially on the subjects that have been emphasized during the preceding year at local institutes.

#### FARMERS' INSTITUTE NOTES.

One hundred forty-two men took the drill in stock judging at the State Farmers' Institute last week, representing 51 counties.

Information pamphlets were distributed at the various farmers' institutes and "train" meetings, since July, 1906, as follows: Wheat, 13,000; corn, 3500; cow-peas, 2000; grading cream, 1000.

While there was no accurate way of keeping a record of all the visitors to the several conventions held here last week, it was thought safe to estimate the aggregate attendance of the different people at over 800.

Through a misunderstanding, no reduced rates were granted on the railroad after Tuesday, January 1, and thus those who came for the good roads, dairy, draft horse and Aberdeen-Angus conventions had to pay full fare. This will not happen again, as the railroads now see that the Kansas farmers are determined to come to Manhattan.

Mr. Joseph E. Wing, associate editor of the *Breeders' Gazette*, came to Manhattan on Monday, December 31, to talk to the Boys' Corn Contest Association, and was so pleased with the character of the various meetings and with the people who were here that he remained until Saturday morning and was drafted on almost every program, much to the pleasure of the farmers present. His talks were plain and practical, and he always "hit the nail on the head."

Every evening program was excellent, but Friday night the last program presented four "big guns:" Hon. T. W. Potter, of Peabody; F. D. Tomson, Chicago; Prof. W. L. Carlyle, Colorado Agricultural College, and Mr. Joseph E. Wing, associate editor of the *Breeders' Gazette*. These men spoke on the following subjects: "The Future of Kansas as a Live-stock State," "Comparison of Types and Meat-Producing Animals," "The American Carriage Horse," and "The Sheep Industry."



The county farmers' institutes in Kansas since October, 1906, distributed nearly \$3000 in cash prizes for the boys' corn contests and the girls' baking and sewing contests. This certainly means much for the advancement of agriculture and the home and indicates a wonderful awakening as to the importance of interesting young people.

The appropriation for institute expenses made last July has been exhausted—in fact, overdrawn. Hence, the College will not be able to render much assistance at farmers' institutes until next fall. A few meetings will probably be held in February and March in localities where none have been held recently, or where meetings are important for completing important permanent organizations. In many counties the organizations are abundantly able to hold excellent meetings without College help. It is very important that every county in eastern Kansas hold a "corn" meeting to arrange for the various contests, and it is hoped that all western counties will hold meetings for conference on durum wheat and maize plantings.

Arrangements have been completed with the industrial department of the Missouri Pacific railroad for carrying over its lines in southeastern Kansas the entire "corn show," of both boys' and men's exhibits that were here during the State institute week. Mr. Stinson, agricultural agent, and Mr. D. E. King, industrial agent of the railroad company, will send their agricultural car to Manhattan on January 18 and the corn will be arranged in the car for exhibition. The first meeting will be held in Topeka on January 21, the car remaining there from 8:00 A. M. to 2.00 P. M. About fifteen stops will be made, from one-half to a whole day, going as far south as Sedan, probably ending at Cherokee on February 2. Wherever convenient, a two-hour drill in corn judging will be given by Mr. M. D. Snodgrass, assistant in crop production, Kansas State Agricultural College, and lectures on corn breeding will be given by Director Burkett, of the Kansas Experiment Station. This is something entirely new and will no doubt attract considerable attention and do a great deal of good. Farmers will have the opportunity of seeing 130 samples of very good corn—corn good enough to win over \$500 in prizes at the State Corn Show, and the best ten ears of yellow corn good enough to sell for \$16. The idea originated in the mind of Mr. Stinson, agricultural agent for the Missouri Pacific Company, and he came to Manhattan, made the proposition to carry the corn over their lines, and the offer was accepted. In most places a practical drill in corn judging will be given and farmers and others will have op-

portunity to go through the car and view the exhibit, and later the lectures on Corn Breeding, Methods of Cultivating Corn and Intensive Farming will be given by speakers from the Agricultural College and by the Agricultural Agent of the Missouri Pacific railroad. The itinerary is as follows:

Topeka, Monday, January 21, 8:00 A. M. to 2:05 P. M.  
 Overbrook, Monday, January 21, 3:12 P. M. to 9:40 A. M., January 22.  
 Quenemo, Tuesday, January 22, 11:00 A. M. to 3:20 P. M.  
 Osawatomie, Wednesday, January 23, 8:00 A. M. to 11:00 P. M.  
 Garnett, Thursday, January 24, 8:00 A. M. to 5:40 P. M.  
 Bluemond, Thursday, January 24, 7:30 P. M. until Friday noon, January 25.  
 LeRoy, Friday, January 25, 3:30 P. M. to 10:00 P. M.  
 Yates Center, Saturday, January 26, 8:00 A. M. to 6:00 P. M.  
 Fredonia, Monday, January 28, 8:00 A. M. to 10:00 P. M.  
 Elk City, Tuesday, January 29, 9:00 A. M. to 10:00 P. M.  
 Sedan, Wednesday, January 30, 10:30 A. M. to 10:00 P. M.  
 Caney, Thursday, January 31, 7:00 A. M. to 4:00 P. M.  
 Bartlett, Thursday, January 31, 6:00 P. M. to Friday, February 1, 10:00 A. M.  
 Edna, Friday, February 1, 10:18 A. M. to 5:35 P. M.  
 Cherokee, Friday, February 1, 7:00 P. M. to Saturday, February 2, 7:00 P. M.

### ***Boys' and Girls' Contests, 1907.***

Plans are now being perfected for greater work with the boys and girls this year than ever before. The future progress in agriculture depends upon the education of the boys and girls of to-day. They must be taught early to see the sense and the profit of scientific farming and scientific living; must have awakened in them a "realization of the inherent charm of rightly managed rural life." These contests and the attendance of the young people at the farmers' institutes will help to give this awakening and help to interest them in farm work and farm life.

The contests this year will be planned along the following general lines: (1) Corn growing (a) for boys of 1906—planting ten ears, the best they raised last year, in a "row test." (b) For new contestants—planting one quart of pure-bred seed-corn. (2) Potato growing. (3) Sugar-beets. (4) Durum wheat. (5) Garden plots—50 x 150 feet (for single entries or for two or more boys or girls). (6) Vacant town lots—Greatest weight in vegetables, at least ten varieties; also greatest money value. (For single entries or for two or more boys or girls.) (7) Flower gardens—15 x 30 feet (details left to local committees). (8) Domestic science and art—(a) Bread Baking, wheat (white, Graham, durum), corn. (b) Cakes. (c) Pies. (d) Canning fruit. (e) Sewing. (f) Embroidering.



A circular will be issued within the next few weeks, with complete details for all the above contests. It will be mailed to all farmers' institute officers, to all county superintendents of schools, to all newspapers, and to others on request. It is earnestly hoped that at least fifteen thousand young people between the ages of ten and eighteen may enter these several contests. Address all correspondence to Superintendent Farmers' Institutes, Manhattan, Kan.

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### ***College Locals.***

President Nichols went to Topeka on Wednesday and Thursday on College business.

Asst. C. A. Willson, of the Animal Husbandry Department, has moved into the Limbocker residence, on Leavenworth street.

All three of the Manhattan papers and the *Kansas Farmer* contain full reports of the State Farmers' Institute held here week before last.

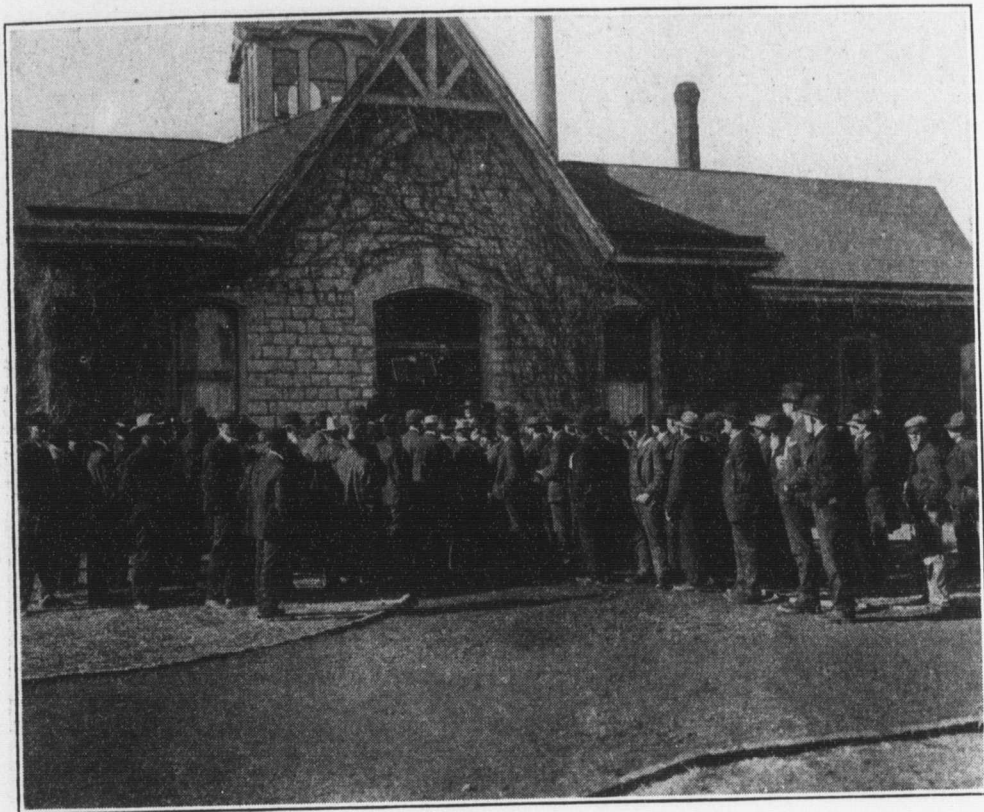
The Botanical Department has lately received a dozen very fine, new Bausch & Lomb compound microscopes. They represent an investment of over \$350.

Dr. F. S. Schoenleber, Dr. C. L. Barnes, Dr. Burton Rogers and the senior and junior veterinary students went to Topeka last Wednesday morning to attend the State veterinary meeting.

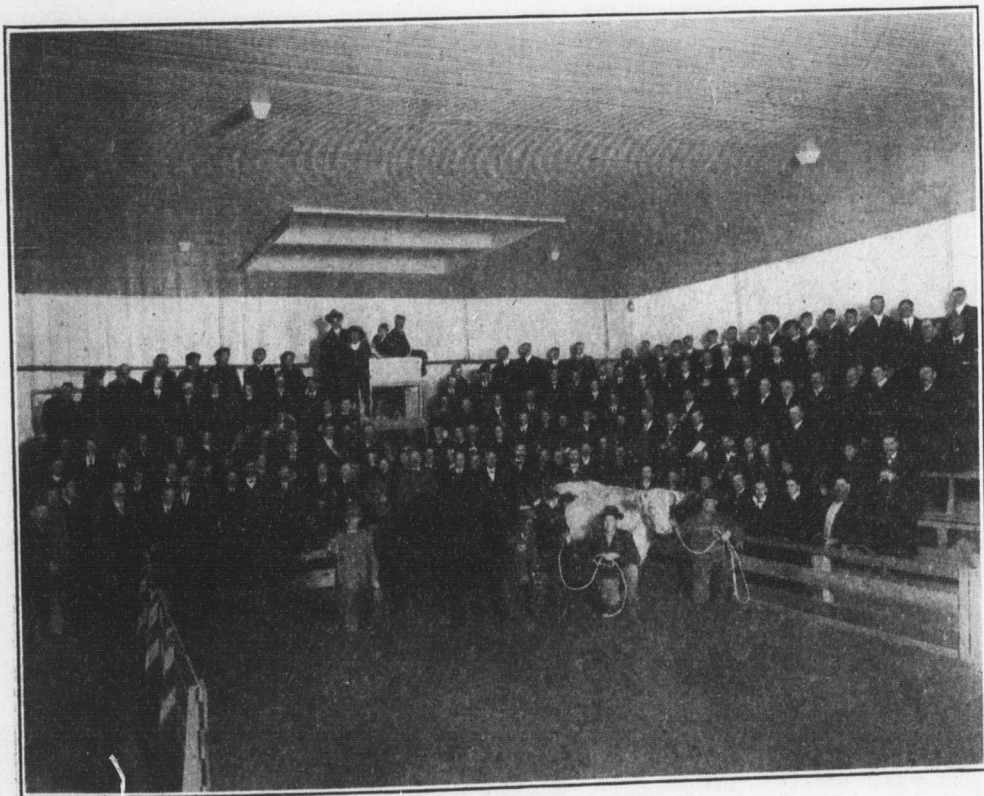
The College was represented at the Annual State Horticultural Society meeting held at Topeka during the holidays by President Nichols, Professors Popenoe, Calvin, and Dickens, and several of the assistants.

The new Horticultural Hall is nearly completed, and though the carpenters and painters are still at work, all the rooms are occupied and "filled to the brim." Besides the Departments of Horticulture and Botany, which will be permanently located in the building, there are temporarily housed in the lecture rooms five classes of preparatory and first-year students, thus crowding the capacity of the large building to the utmost.

The winter term of the present College year bids fair to become a big record breaker. Nearly 1650 students were enrolled from Tuesday morning till Friday evening, and more were coming. This means an increase over last winter of over 200 students. The class rooms, laboratories, shops and halls are full of students, and in some of the rooms there are more students hanging to window benches and radiators than there are in the seats. Many parallel classes have already been organized and more will be required. Additional room is needed worse than ever before in the history of the College.

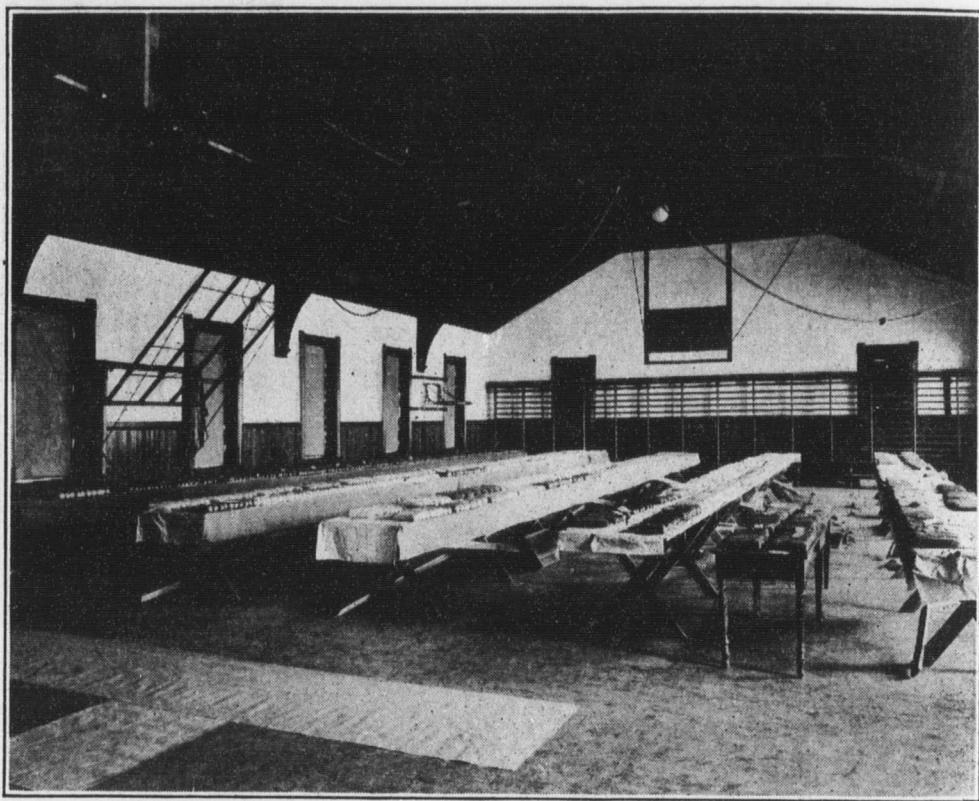


Selling Prize Corn, State Farmers' Institute.



Judging Beef Cattle, State Farmers' Institute.





Corn Contest Exhibits, State Farmers' Institute.



Judging Corn, State Farmers' Institute.

# THE INDUSTRIALIST

Vol. 33

No. 12

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



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# THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., JAN. 19, 1907.

No. 12

## *Kansas Corn Breeders' Association.*

The annual meeting of the Kansas Corn Breeders' Association held at the College January 1 and 2 was a decided success. A good program was arranged and carried out before a large and appreciative audience. The business meetings of the association were well attended, and about forty new members were taken in. Below is a list of some of those making addresses, with extracts of their addresses. In last week's issue a short report of the meeting was given, but a fuller report is furnished at this time. The association wishes to thank those who so liberally responded to our request for prizes.

Prof. E. G. Montgomery, of the Nebraska State University and Experiment Station, spoke on the subject, "Seed and Soil Problems." He began his address by discussing different varieties or types of corn and other crops, exhibiting samples of various types of corn to illustrate the extreme variations which may be produced by selecting and breeding with the purpose of producing and fixing a certain type or character. As an illustration of this he showed samples of large cobbled corn grown in Missouri for the special purpose of manufacturing corn-cob pipes; ears measuring ten to twelve inches in circumference. As an extreme type he showed a sample of corn bred by a Nebraska farmer—long, slim ears, measuring fifteen inches long, but only six or seven inches in circumference. "The breeder's eye and selection makes the breed or type." We should breed not only for type in corn or other grain, but also for yield and quality. There is a great difference in varieties of corn, wheat, barley, oats, etc. To illustrate this he gave the results of the average yield for five years of several varieties of corn, wheat and oats tested at the Nebraska Experiment Station as follows:

| Variety. corn.           | Average for five years. |
|--------------------------|-------------------------|
| Hogue's Yellow Dent..... | 74.0 bushels per acre.  |
| Reid's Yellow Dent.....  | 71.0 bushels per acre.  |
| Riley's Favorite.....    | 60.1 bushels per acre.  |
| Silvermine.....          | 59.1 bushels per acre.  |



| Variety, wheat.    | Average for five years. |
|--------------------|-------------------------|
| Turkish Red .....  | 35.3 bushels per acre.  |
| Big Frame.....     | 26.9 bushels per acre.  |
| Yaroslov.....      | 23.4 bushels per acre.  |
| Ghirka.....        | 24.1 bushels per acre.  |
|                    |                         |
| Variety, oats.     | Average for five years. |
| Kherson.....       | 59.0 bushels per acre.  |
| Red Texas .....    | 52.0 bushels per acre.  |
| Banner.....        | 50.0 bushels per acre.  |
| Prize Chester .... | 43.0 bushels per acre.  |

It will be observed that the Hogue's Yellow Dent corn has yielded over seventy bushels more corn per acre in five years than the Silvermine or Riley's Favorite. The Turkish Red wheat has yielded sixty bushels more grain in five years than the Yaroslov variety, while the Kherson oats has yielded eighty bushels more per acre in the five years than the Prize Chester oats, and forty-five bushels more than the Banner oats. Professor Montgomery also compared home-grown seed with imported seed. As an average for two years, it was found at the Nebraska station that the Leaming corn grown in Nebraska yielded 82.5 bushels, while the Leaming brought from Illinois yielded 72.3 bushels per acre, a difference of 9 bushels in favor of the home-grown seed. The Silvermine corn grown in Nebraska yielded 73 bushels per acre, while the Silvermine seed-corn from Illinois yielded 64.2 bushels per acre, a difference of 8.8 bushels per acre in favor of the Nebraska-grown seed. Similar results also were secured with the Snow Flake corn, Boone County White, Reid's Yellow Dent, and Early Yellow Rose. He showed also by the results of experiments that the value of the seed for planting varied with the locality in which the seed was grown. For instance, the Nebraska White Prize corn, grown in Saline county, when planted at Lincoln yielded 84.2 bushels per acre, while the same variety of corn grown in Washington county, in the central northern part of the State, yielded 80.5 bushels per acre, a difference of 3.7 bushels per acre in favor of the local-grown seed. With the Silvermine variety of corn the yields were 73 bushels per acre for the home-grown seed and 63.4 bushels per acre for the Washington county seed, or 9.6 bushels per acre in favor of saving and planting home-grown seed. In this connection, also, he made a point that we should not have too much faith in a name; that the purity of the seed and the conditions under which it was grown have much to do with the yield and hardiness of the crop. "Constant selection is required to keep up a strain or variety, getting seed from a reliable breeder," preferring a local breeder.

There is still a tendency on the part of farmers to send a long

way off for seed-corn. He noted instances in Nebraska where farmers had sent to Solzer & Co. for seed-corn, receiving seed which had been grown on the company's farm only ten or fifteen miles distant from the farmer who purchased the seed-corn.

With reference to soil improvement, Mr. Montgomery gave some interesting results of experiments carried on at the Nebraska Experiment Station, which indicate that the soil has even more to do with improving the seed and securing large yields than the selection of the seed. He stated that in many instances in which the farmers complained that the seed runs out, that it is really the soil which was running out in fertility.

It is not possible to breed fine cattle without proper care and feeding. Neither is it possible to breed corn or wheat in soil deficient in fertility and of unfavorable texture.

Following Professor Montgomery, Prof. M. F. Miller, of the Missouri State University and Experiment Station, spoke on the subject of "Corn Breeding." Professor Miller reinforced the statement of Professor Montgomery, that home-grown seed-corn was better than imported seed, stating that in tests in Missouri the home-grown corn had given better results than seed of some other variety brought from Kansas. He also considered the building up of the soil a very important part of plant breeding, speaking not only of soil improvement by rotation of crops, but also taking up in a general way the use of manures and commercial fertilizers. He made this characteristic statement: "Few farmers can build up land and make money at the same time." He did not think Kansas farmers needed so much advice along the line of commercial fertilizers and building up the fertility of the soil as Missouri farmers, because "Kansas soil" is more fertile than Missouri soil.

Professor Miller proposed three separate plans for corn breeding. The first plan was for the use of the general farmer, and consisted of a simple method of planting about ten acres on the east side of the field with the choice ears and selecting the seed-corn from this part of the field in the fall. The farmer should select the very best ears of corn each year for planting the ten-acre seed plot, and always select the seed-corn for planting the succeeding years from the ten-acre plot. He recommended de-tasseling the inferior types of plants, in order to allow the best plants to breed together.

The second method proposed was the ear-row plan of breeding corn, which is adapted either for the use of the farmer or the experiment station worker. Professor Miller's plan was to de-tassel



the rows which showed inferior growth and also some of the best-producing rows, thus securing cross fertilization, selecting the seed for future planting from the best de-tasseled rows.

As a third method of corn breeding, by which it is possible to produce corn of absolutely known pedigree, he explained the system adopted at the Ohio Experiment Station, which is perhaps not practical for the use of the farmer, but is more for the specialist in corn breeding at the experiment stations.

Following Professor Miller, Hon. Joseph E. Wing, associate editor of the *Breeders' Gazette*, made a short talk, illustrating the results of an experiment in corn breeding which had been carried on at the Wing brothers' farm during the season of 1906. In this test the yield from individual ears varied from 65 to 140 bushels per acre. Mr. Wing made a very entertaining talk, discussing, in brief, the theory of evolution, Mendell's law, and the possibilities of its application by the modern breeder both to animals and plants. He could not help using the sheep as an example in illustrating his points. Mr. Wing made the point that an ear of corn ought to have a rather large cob. "The cob is the mother of the ear, and has somewhat the same relation to the ear as the bone to the animal." He believed, also, that the stalk should be rather large, and that the shank of the ear should not be too small. He did not object to the cob sticking out a little beyond the corn; such an ear can grow more corn in a more favorable season.

This was a volunteer talk by Mr. Wing, he having made his main address on Monday evening at the meeting of the Boys' Corn Contest Association.

In the meeting of January 2, the addresses were made by Prof. E. A. Popenoe and Professor Miller, of the University of Missouri. Professor Popenoe spoke on the subject, "Insects Injurious to Corn." He called attention to those insects which are most common and most destructive to the growth of corn. He gave us an insight of the life and history of the insects, their habits, etc., and pointed out the most practical manner to combat these pests. His address was received by an appreciative audience.

Following Professor Popenoe, Prof. M. F. Miller spoke on the subject, "Qualities in an Ear of Corn Which go to Make a High Yield." Professor Miller pointed out these characteristics in an ear of corn that indicate greater productiveness under the various climatic and season conditions. The types of highest-producing ears differ from variety to variety, from soil to soil, from one character of climate to another, and even from season to season;

nevertheless, there are certain features of a general nature that may be profitably considered. He pointed out that the size of the ear was one of the most important characters to be considered. The size of the ear should depend upon the character of the soil upon which it is to be grown: the large ear for very rich bottom land and a long season, and a medium ear for the average soil and upland and short seasons. Then, in selecting seed-corn, the largest ears are not to be sought for, but those which show good depth of kernels for the full length of the cob, uniform in shape and size, and an ear of medium size.

The work carried out at the Missouri and Nebraska Experiment Stations show that medium-sized ears are the best producers under the prevailing conditions in those states. The kernels should be large enough to give vigor and vitality to the young plant after germination until it is capable of gathering its own food from the soil. The butts and tips have certain characters that indicate production capacity. The butt seems of the most importance, because the tip is influenced by the season more than the butt. We prefer a well-covered tip, but will be satisfied with one if the kernels are deep out as far as they go. Compactness is very desirable, and is indicative of maturity and full development. Little space between the rows means more shelled corn. And more than that, it means kernels of more desirable length and shape. The stalks indicate prolificness. A tall, slender stalk is not as desirable as the shorter and blockier stalk, heavy below the ear and tapering with leaf-surface of good quality. The ear should be low and should bend over as it ripens, indicating shanks of medium size, which indicates easier husking and more natural protection from wet weather. Too much stress cannot be placed upon the character of stalk when selecting seed.

MILTON D. SNODGRASS.

### ***Cooked by Electricity.***

While at Manhattan last week the writer, with some others, was invited to accompany President Nichols to the Domestic Science Department. It was about the noon hour, and by the time the guests had obtained their bearings fairly well they were invited to dinner. Of course, not all of the 500 young ladies who last year received instructions in this department and practised what they had learned could have a part in the preparation of a dinner for eight or ten men. Indeed, it was stated by Prof. Henrietta W. Calvin, the head of the department, that it is difficult to keep even her assistants because of the fact that by the time



one of them becomes fairly established in her position and has demonstrated her capabilities some young man experiences an attraction towards the department, and before long marries the young lady and takes her away. The professor even threatens to train boy assistants in the hope of retaining their services more certainly.

The dinner in question was cooked by electricity. The visitors did not see the cooking done, but were assured by Professor Calvin that no fire had been used in its preparation. But it came to the table cooked to perfection, and hot. A big roast, vegetables, coffee, and the etceteras of a substantial and in every way excellent dinner were there. The serving was daintily done by two young ladies in spotless white.

The cost of electrical cooking is the only objectionable feature. The Mechanical Department of the College is charging the Domestic Science Department a good round price for electricity, viz., 15 cents per 1000 Watt hours. Professor Calvin finds her electricity nine times as expensive as coal at \$5 per ton. The Topeka rate would reduce this to six times the cost of coal.

The effect of the excellent dinner upon the visitors was such that had they been members of the legislature they would have been inclined to vote to the Domestic Science Department such appropriation as would enable it to meet in a proper manner the great and increasing demand for instruction and practical training in the art which has so much to do with the health, happiness and usefulness of mankind. The crowded condition of this department is such that more room and greatly enlarged facilities must be had.—*Kansas Farmer*.

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Manhattan is destined to become a railroad center! This week two different companies were chartered which intend to build through our city. The new Chicago Southwestern will start an electric line at Chicago and pass through Kansas City, Manhattan and Denver, and the Rock Island railway intends to build to Manhattan from the north. In addition to these railroad projects it is asserted that the necessary capital has been raised to build a ten-foot dam three miles up the Blue river, at Rocky Ford, install turbines and dynamos, and bring the power to the city by electric cable. Then there is the new United States post-office building which has now been definitely located at the southwest corner of Third and Houston streets. We predict that the old town won't know itself in a few years.

# THE INDUSTRIALIST

*Published weekly during the College year by the  
Printing Department of the*

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Manhattan, Kansas.

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### Local Notes.

Student W. W. Smith, the carrier of the *Kansas City Star*, says that he has 456 *bona fide* subscribers in Manhattan.

The *bona fide* attendance last Thursday, January 17, was 1674—about 250 above that of the winter term of last year.

Regent and Mrs. A. M. Story gave a dinner to the members of the Board and the senior professors last Thursday, at their home on Houston street.

Prof. R. J. Kinzer received a telegram Thursday evening to come to Denver on Monday and Tuesday to judge stock at the annual Denver Live Stock Show.

President and Mrs. Nichols gave a reception to the Board of Regents, the heads of the College departments and their wives last Thursday night, at East Parkgate.

Superintendent Rickman was agreeably surprised with a fine birthday present—a handsome arm chair—sent to his home by the employees of the Printing Department.

State Architect John F. Stanton came up from Topeka on Thursday to assist the Board of Regents in their settlement with the contractors of the new Horticultural Hall.

The Beck Flaming Lamp Company will send the Electrical Engineering Department one of their newest type of arc lamps, with carbons to give either a white or a yellow light.

The Animal Husbandry Department has just purchased from Mr. C. S. Hanna, of Howard, Kan., another white Shorthorn calf which has every promise of making a better steer than ever Tim was.

G. H. Berenzen, junior in the architectural course, left for Pensacola, Fla., to work in an architect's office. He will get \$100 a month during the winter term and intends to be back in the spring.

At a recent meeting of the Aberdeen-Angus Breeders' Association, Professor Kinzer was elected as one of the judges of Angus cattle at the American Royal Show, to be held in Kansas City next October.

The Botanical Department is getting interesting results with the new machine for testing the hardness of wheat. The instrument is an entirely new thing, of original design, and works admirably. Just now the department is at work on the deterioration of wheat caused by weathering.



Mrs. Nichols, mother of Pres. E. R. Nichols, is visiting with her son and daughter-in-law. Mother Nichols is a well-preserved and bright old lady. She likes Manhattan, and intends to stay with her children for the winter.

The Veterinary Department has just completed a shed for the purpose of raising Guinea-pigs and rabbits. These small animals are used for experimental purposes in order to investigate various diseases and treatment methods.

Dr. F. S. Schoenleber was in Atchison Saturday to investigate a disease among horses and ordered killed seven that were suffering with glanders. As many more were put under quarantine. The use of public watering troughs for horses was stopped in the city.

While attending the session of the Board, Regent J. O. Tulloss bought of the Animal Husbandry Department one of the best Duroc-Jersey Gelts that was bred at the College this year. He expects to enter the live-stock business in the Duroc-Jersey breed.

The Locke Insulator Manufacturing Company, Victor, N. Y., has sent to the Electrical Engineering Department two barrels of their best grade of high potential insulators to be tested. The senior electrical engineers will be given a demonstration of high potential testing.

Victor Kovar, of the Sharp & Smith veterinary instrument firm, of Chicago, was here last week. He brought with him a large assortment of high-grade veterinary instruments for exhibition. They were displayed in the museum of the Armory, and many orders were given by the junior and senior students of the veterinary course.

Professor Erf was in Washington, D. C., during the holidays, in response to a request of the Internal Revenue Division of the United States Treasury Department. The department was preparing a pure-food bill for congressional action and the professor was asked to assist as expert in preparing the section concerning the standard of dairy products.

The Bohumir Kryl Company rendered a fine program to an appreciative audience in the Auditorium on Friday night of last week. The next numbers in the College lecture course will be the Cleveland Ladies' Orchestra, on January 24, and a lecture on January 29, by the well-known platform orator, John B. DeMotte. The orchestra is a complimentary number.

Secretary Coburn has added to his reputation by his "Book of Alfalfa," just issued from the Orange Judd press, a handsomely gotten-up work of 336 pages, which covers every possible phase of the subject of alfalfa, and will be an immensely useful and valuable handbook for agriculturists all over the country. Professor Roberts contributes a chapter on the adulterants of alfalfa seed, with numerous cuts.

Married, January 2, at the home of the bride's mother, at Hanover, Kan., Miss Bertha Lucile Jaedicke and Rev. William Theodore Kahise. The couple will be at home after January 6 at 212 Cedar street, Grand Island, Neb. The bride will be remembered as the piano assistant of the Music Department of this College in 1900 and 1901. The INDUSTRIALIST congratulates.

The short-course girls are again serving "practice dinners" to the members of the Faculty who have afternoon work and can not go home during the noon recess. The local editor has promised them a "handsome" write-up if they keep on doing as well as they have done this week. These are young women in the second term of the domestic science short course this winter.

Prof. T. H. Baer, of the chair of psychology of the State University of Colorado, visited College last week. He expressed himself highly pleased with the many evidences of growth of our institution and reported Colorado University as equally prosperous. The professor, though young in years, is well known in educated circles all over America for his researches in psychology, and especially in the branch concerning the mental evolution of the human race.

The first horse to be exhibited from Kansas at the International Live Stock Exposition in Chicago was exhibited this year by J. A. Gifford, of Beloit. He was a yearling Percheron stallion, raised by Mr. Gifford, and was made champion stallion of all ages at the Mitchell county fair last fall by Professor Kinzer. The colt won fourth place in Chicago in a class of sixteen, and Mr. Gifford is to be congratulated on being the first exhibitor from the Sunflower State with a colt bred and raised in Kansas.

The Board of Regents held its regular winter session on Wednesday, Thursday and Friday of this week. All members were present except Mr. McDowell, who was absent on account of the serious illness of his daughter. The Board approved the use of the Auditorium for the Kansas County High School Oratorical Association, which will be held here in May. The degree of A. M. was conferred upon Regent E. T. Fairchild, who has been a valuable member of the Board of Regents for eight years and leaves the College to assume the duties of the office of State Superintendent of Public Instruction. The new Horticultural Hall was accepted from the contractors under certain provisions.

Examinations will be held throughout the country on February 5, next, for positions in the Department of Agriculture under the pure-food and drugs act. The examinations will be for one chief food and drug inspection chemist at \$3,000 a year, several food and drug inspection chemists at \$2,000 a year, and a large number of food and drug inspectors at \$2,000 a year. In all about seventy-five appointments are to be made. The list of eligibles will be certified to the department as soon as the papers of the applicants can be looked over after the examinations. Candidates should at once address the Department of Agriculture, Washington, D. C., for application blanks and other information.



Miss Mary Francis Nesbit, the newly elected assistant in mathematics, is a graduate (class of 1896) of the Indiana State Normal School, and a graduate (A. B., class of 1903) from the general science course of the Illinois State University. She also holds a life diploma as teacher in any of the schools of Indiana. Last summer she attended lectures in mathematics in the University of Chicago. She is now doing work in the correspondence department of that institution and expects to return there for another course next summer. Miss Nesbit comes to us well recommended, both as a student and teacher of her special branch of science, and has taken hold of her work with commendable energy.

Two of our students, Clifton Stratton and Roy Graves, of Kansas City, made a wager on the closing day of the fall term with David McCallum, another Kansas City student at this College, that they could leave Manhattan at 1 o'clock Friday and walk to Kansas City by 8 o'clock Sunday night. For every hour less McCallum was to pay them twenty-five cents, for every hour's time they lost they were to pay him twenty-five cents. Stratton was but 25 minutes late. He declares, however, that he cannot be penalized, as he was not an hour overdue. Sunday afternoon Graves gave out a few miles west of Lawrence and took a railroad train home. But his companion took a good night's rest and left Lawrence at 8 o'clock in the morning. They think a good deal of their experience, but say that they will ride like other people when they go home at the close of next term.

Professor Erf attended the Inter-State Dairy Congress at St. Joe, and reports it the most successful meeting of the kind ever held. He took the College milking machine along and gave a milking demonstration in the opera-house before six thousand or more dairymen and farmers. He explained the working of the apparatus and milked four cows on the grand stage in full view of the audience, who watched the process with breathless interest and broke out in vigorous applause when the milk was poured into the glass vessels on the table at the center of the stage. There were bets made that the cows would kick at the apparatus and the strange milker whom they had never seen before, but they stood like lambs. One of the cows was the prize Jersey from the St. Louis World's Fair. Last week the professor gave a similar exhibition before the Missouri Board of Agriculture in session at the State Agricultural College at Columbia, Mo.

### *Alumni and Former Students.*

Inga Dahl, '98, is taking work in domestic science and domestic art this term.

W. J. Griffing, '83, attended the corn show and carried off the second prize on calico corn.

Kate Robertson, '05, is taking a course in domestic science in Teachers' College, New York City. Her address is 417 West 114th street.

M. J. McCray, junior last year, won the first prize in the boys' corn contest recently held here.

Helen Monsch, '04, has been teaching domestic science in the schools of Louisville, Ky., for some weeks past.

O. H. Elling, '01, Hays, Kan., is very enthusiastic over the arrival of a ten-pound baby, who will be a sister to Helen Rachel. The new one was born December 28.

H. T. Nielsen, '03, Rosslyn, Va., is very proud of a boy born January 12, and says: "For the sake of referring to him in the future we have styled him Earl Theodore."

Jeanette (Perry) Thomas, '98, with the only Perry Thomas, is making an extended visit with the home folks here. The distance is too far now for H. M. Thomas, '98, to come.

W. S. Sargent, '01, United States geological survey, is now located at Tombstone, Ariz. He spent Christmas with F. W. Wilson, '05, of whose work and prospects he speaks well.

The Massachusetts Crop Report for October contains one of the practical articles so characteristic of Prof. F. A. Waugh, '91, of Amherst, Mass. It treats of "Peach Culture."

John A. Lind, short-course student last year, attended the corn breeders' meeting and won the third prize for yellow corn in the farmers' contest, and the third sweepstakes prize.

L. V. Sanford, '04, Oneida, Kan., won the second prize for yellow corn and second sweepstakes on an exhibit of Legal Tender at the recent meeting of the Corn Breeders' Association. Mr. Sanford was in attendance.

Geo. C. Hall, '96, has suffered the loss of his wife, who died at their home on Hunter Island, near Manhattan, Tuesday afternoon, December 25, from blood poisoning. She left three children, the youngest only seven weeks old.

The various meetings at the College during the holidays attracted a number of former students and graduates, among them being T. W. Allison, '98; Ralph Snyder, '90; W. J. Burtis, '87; W. R. Hildreth, '02; Carl Thompson, '04.

Many old students will remember Ella (Cowell) Bayles, student in 1881, and will be pained to learn of her very sudden death on December 14, at the home north of Manhattan. She leaves her husband, B. B. Bayles, and nine children.

Edmund R. Secrest, '02, delivered an address on "Methods of Estimating Future Yields in Woodlots" before the Ohio State Forestry Society, January 17, 1907. Mr. Secrest is assistant in forestry at the Ohio Experiment Station, Wooster, O.

J. M. Scott, senior in 1903, who has been assistant in agriculture in the New Mexico Agricultural College for the past three years, has been elected to a position in the Agricultural Department of the College of Agriculture of the University of Florida.



S. S. Fay, '05, writes from Wooster, Ohio, requesting that the INDUSTRIALIST be sent to him there in care of the Experiment Station, from which it would seem that he is connected with that institution.

Owing to the vacation taken by the INDUSTRIALIST and the space required for the report of the farmers' institutes last week there has been no opportunity to present alumni items for some weeks, and a number of those of less permanent interest are omitted.

J. G. Haney, '99, Oswego, Kan., won the second prize for yield in the recent State contest. As yield is the final test of all corn, Mr. Haney is to be congratulated upon his success in the best part of the competition. He raised one hundred three bushels of Hildreth Yellow Dent on an acre.

Ary (Johnson) Butterfield, '98, writes to correct the recent statement concerning her address and that of J. A. Butterfield, '99. The address given was that reported by the Kansas City postmaster, but it seems he did not know, and they are really living at 1724 Pennsylvania street.

The many friends of Anna (Streeter) Haney, '99, and John G. Haney, '99, were shocked by her death, which occurred December 29. Sincere sympathy is felt for Mr. Haney and the two children, the youngest only a few days old. Mrs. Haney was a very attractive and talented young woman whose early death will be regretted by hundreds outside the circle of her family.

W. R. Hildreth, '02, Altamont, Kan., attended the meeting of the Corn Breeders' Association here and exhibited a ten-ear sample of Hildreth Yellow Dent corn which received first prize for yellow corn, first sweepstakes prize, and sold at auction for \$1.60 per ear. Mr. Hildreth naturally feels pretty good. His pleasure was further increased by the fact that the third prize, won by Mr. Lind, was on corn grown from seed purchased from Mr. Hildreth.

Two of the recent publications of the Forest Service have been prepared by R. S. Kellogg, '96, forest assistant. Circular 49 is upon "Wood Used in the Mines of the United States in 1905," and Circular 52 gives statistics of the "Lumber Cut in the United States in 1905." There are novels that are more entertaining than these circulars, but the latter represent a large amount of laborious painstaking work that possesses much value for the serious student of forest questions.

Silas C. Mason, '90, formerly professor of horticulture here and for nearly ten years professor of horticulture and forestry in Berea College, Berea, Ky., has just been appointed dry-land agriculturist in the Bureau of Plant Industry, United States Department of Agriculture, beginning his services January 1. This engagement is the outcome of some special work which Professor Mason did for the Bureau last summer while on his vacation in California. All who know him know that his new work will be well done. Be-

Berea College has lost a valuable member of its faculty, and Monday evening, the 7th instant, the college people gave him a surprise party and a handsome gift as a reminder of the many friends he is leaving. The presentation speech was made by Prof. Jas. W. Rain, who was instructor in English here in 1891-'92, and who is now a professor at Berea. Mrs. Mason will continue to reside at Berea for the present.

Changes of address: A. E. Oman, '00, Eugene, Ore; J. A. Lewis, '85, 383 Third street, Brooklyn, N. Y.; J. N. Bridgman, '91, Revere, Mo.; E. B. Coulson, '96, Ashton, Idaho; Mabel (Crump) McCauley, '97, 719 East 46th street, Chicago; C. F. Kinman, '04, Ithaca, N. Y., care of Cornell Forcing Houses; J. E. Trembly, '97, and Elven C. Trembly, '95, Council Grove, R. F. D. 5; Geo. F. Bean, '02, Dawson, N. M.; Effie (Gilstrap) Frazier, '92, 902 South G street, Tacoma, Wash.; Nellie (McCoy) Cover, '05, 129 Ellis Avenue, East Pasadena, Cal.; Mary (O'Daniel) Scott, '04, 406 E. Orange street, Gainesville, Fla.

G. H. Failyer, '77, now of the Bureau of Soils, U. S. Department of Agriculture, is the author of Farmers' Bulletin No. 266, on the "Management of Soils to Conserve Soil Moisture, with special reference to Semi-arid Regions." The bulletin is very well prepared, as would be expected, and is upon a subject that in the immediate future will be of most vital importance to thousands of settlers now pouring into the great semi-arid west. There is much sense in the concluding paragraph which is as follows: "Any one who proposes to begin farming without irrigation in a region of light rainfall should be properly cautious. He should not be misled by glowing accounts of large crops; he should investigate carefully the possibilities of the particular region in which he expects to settle; he should have clearly in mind beforehand the kind of crop which he will produce, and he should not undertake dry farming if a failure of crops at the beginning will mean to him complete and permanent disaster. It should be clearly understood that farming in the semi-arid regions, without irrigation, can not in the nature of things be as certain or as profitable as farming under favorable conditions in the humid regions."

The ever beautiful ring service was read in St. Paul's Episcopal church at 7:30 o'clock Wednesday evening, December 26, when Mr. Charles Eastman and Miss Ethel Bower were united in matrimony, and a prettier and more impressive ceremony was never performed in the church. The church was beautifully decorated for the happy occasion, palms, evergreen and holly being arranged in the most artistic designs. After music by the Episcopal choir, R. H. Brown began the first sweet notes of the wedding march and the bridal party entered the church. The groom was attended by his brother, Robert Eastman, and Miss Anna Bower, sister of the bride, acted as bride'smaid. The bridal couple was met at the altar by Archdeacon Leeds, of Topeka, who performed the ring service, assisted by Rev. E. R. Allman. The bride was given away by her father, Thomas W. Bower. After the ceremony



at the church the bridal party, relatives and out-of-town guests, numbering in all about forty-five, were entertained at the home of the bride's parents, Mr. and Mrs. T. W. Bower, with a handsomely appointed wedding dinner. Mr. and Mrs. Eastman left on the 9 o'clock train for San Luis Obispo, Cal. After a short visit there they will go to San Francisco, where they will be at home after February 1. The bride has lived in Manhattan a number of years and is very popular in church and social circles. The groom is a graduate of the K. S. A. C., class of '02, and is now a successful veterinarian in San Francisco. He is considered a fine young man and enjoys the respect and admiration of all who know him.—*Mercury*.

H. V. Harlan, '04, and Augusta (Griffing) Harlan, '04, Iloilo, P. I., are enjoying the satisfaction that accompanies success in teaching agriculture and domestic science. In the somewhat unorganized condition of things when he began work it was Mr. Harlan's lot to teach nearly everything in the catalogue, and he was surprised to find that he could do this as successfully as graduates of prominent eastern universities. As Mr. Harlan grows older he will find that success always depends more upon the man than upon the place he comes from, and any who are familiar with his excellent record here will not be surprised at his success in teaching, even if it includes subjects not listed among his specialties.



Students Taking Soil Samples.

# THE INDUSTRIALIST

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THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., JAN. 26, 1907.

No. 13

The Field of the Veterinarian.

At a time when a veterinary department has just been established in this institution it surely will not be amiss to offer a few statements showing why the people of the State of Kansas should give it their most earnest and enthusiastic support. Is it a profitable investment? A few historical and statistical facts concerning veterinary medicine may, perhaps, serve in a comparative way as a basis for warranted prophecies here.

The first veterinary school was established in Lyons, France, in 1762, and therefore prior to the purely agricultural school. Was it a private institution for the selfish purpose of profit and gain to a few of its promoters? No, indeed not! It was a government institution. In that era no such thing as refrigeration or preservation of meat was known, and the armies of that time were followed by large droves of cattle, which were killed as fast as they were needed and eaten in a fresh condition. Devastating diseases would break out among the cattle, and losses reaching 150,000 head would occur, and naturally in some instances be a factor in victory and defeat. Rinderpest was the most serious plague, and the school at Lyons was established by the government for the purpose of developing efficient men and methods that would successfully eradicate the disease. The success at Lyons was so marked that the other European countries soon followed the example. That is the function and purpose of the veterinary schools of today, each continent, each clime, each country and each state having veterinary problems that are peculiarly provincial.

Rinderpest never did, and contagious pleuro-pneumonia and foot-and-mouth disease do not now, exist in this country, although they are three of the most devastating animal plagues of the Old World. This fortunate state of affairs is due to the activities of the expert veterinarians employed by the United States Government. Dr. Leonard Pearson estimates that the saving to this country in the complete eradication of foot-and-mouth disease, which broke out in the New England states a few years ago, was sufficient to establish and equip a veterinary experiment station and school in every state in the Union.

Have the investigations of animal diseases advanced knowledge concerning human diseases: the most potent obstructors of human happiness?

In 1851 investigations of anthrax, a disease of animals, resulted in the discovery of the plant organism that caused it, and as a result the valuable germ theory of infectious diseases was founded. No other science has made such rapid advancements in so short a time, and Pasteur rightly prophesied, "It is within the power of man to cause all infectious diseases to disappear from the earth." And so when one considers the large number of infectious diseases which still exist (tuberculosis, blackleg, diphtheria, chicken cholera, anthrax, swine plague, hog cholera, Texas fever, contagious abortion, rabies, etc.), there is demonstrated an almost limitless field for young men with the proper preliminary training offered by a veterinary course. Who knows but among the future graduates of the K. S. A. C. Veterinary Department there will be one or more who will be prominent factors in the world's progress. For the progress of the world consists largely in solving and recording the *xs*, *ys* and *zs* of nature. There are probably as many natural results of cause and effect to-day as ever, but there are many less mysteries. In 1889 during an investigation of Texas fever of cattle, a disease which exists only in the United States, it was found that the dangerous and infectious material existed in the blood of southern cattle and also in a certain tick, the latter carrying it and depositing it in the blood of susceptible non-immune cattle of the North.

With this simple fact as a foundation, it has since been demonstrated that a certain mosquito is the carrier of the dangerous material from persons affected with yellow fever to healthy persons and thereby causes sickness to such an extent that cities are depopulated. To-day, yellow fever fatalities are considered as really excuseless. Were it not for this discovery by a student of veterinary diseases it might be impossible, at least without great loss of life, to construct the Panama Canal that will be conceded to be one of the achievements of this century.

To-day, Denmark stands as the highest type of intensified agriculture, but it would not be so were it not for the discovery of a Danish veterinary investigator concerning contagious abortion of cattle, a disease that seemed threatening to prevent the procreation of the species. The value of his discovery to agriculture is said to be equal to all the money expended in the establishment, equipment and maintenance of all the veterinary schools of the world since 1762.

Veterinarians are to-day seeking methods that will prevent cattle from acquiring tuberculosis even under the most favorable conditions, and are also studying methods of curing those which are already affected. If success crowns their efforts, as preliminary reports seem probable, it will be equally applicable to the human family, and tuberculosis, the greatest thief of human happiness in all civilized lands, will be eradicated. Indirect as well as direct benefits result from veterinary achievements. In the United States alone there is an annual loss of \$200,000,000 due to animal diseases, the vast majority of which are preventable. It is not so appreciable in a large, new, resourceful, bountiful country like our own, where the spirit of the phrase, "There is more where they came from" is all too prevalent. Our wastefulness of to-day is robbery of the heritage of our descendants. A sound animal industry is the foundation of an *enduring* system of agriculture, and the veterinary profession must stand as a guardian to it.

It is now well understood that the land-grant colleges of this country exist for the purpose of educating young people in directions that will cause the maximum returns from the natural resources of that state. In some cases irrigation and drainage engineering must precede agriculture, and it always coöperates with it in improved farm implements and finished product machinery and in the development of highways and transportation methods. As time goes on we will learn to feed and husband our grains at home instead of literally mining them and exporting them. The creation of the fertility of some of our land has taken ages, but we can deplete it in a few short years if the agronomic sciences are not closely followed by dairying and animal husbandry.

Agricultural education of to-day, as well as biology, naturally divides itself into two main divisions, namely: the plant industry, and the animal industry, the latter being dependent upon the former. Agronomy and horticulture are the divisions of the plant industry. Dairying, animal husbandry and veterinary medicine are the three sciences of the animal industry, the measure of success of the two former being largely dependent upon the latter. It is the purpose of the dairyman and animal husbandman to start with a perfectly healthy animal and make every effort to make it and its descendants approach a *perfect* animal and a *perfect* product. It is within the field of veterinary science to see to it, abetted similarly with efficient men and sufficient means and support, that only such healthy animals as referred to above get into the hands of the husbandman, and what is more that they *remain* healthy.

The \$200,000,000 annual loss in our domestic animals from preventable diseases demonstrates a considerable amount of wasted energy in animal husbandry. It is therefore not surprising that the Chicago packers recently put \$250,000 into the hands of President James, of the University of Illinois, for the purpose of establishing a veterinary department. The federal statistics of packing-house inspection show that many animals while alive apparently indicated the best and most successful and highest type of the effect of animal husbandry, while after slaughter they would be found to be affected with that occult disease, tuberculosis, and therefore necessarily demand the destruction of the meat of the animals, and correspondingly decrease our national wealth. These animals lose their identity in the large stock centers, and the feeder and raiser of them may never have suspected such a thing as consumption existing in them, yet the conditions which operated to cause it in them may likewise obtain to cause the dreaded plague in himself or his family. Tuberculosis statistics of Iowa in 1903 showed that one-fifth of the reported cases were in those in the environment of the farm.

As much as he who causes two ears of corn to grow where only one grew before is a benefactor to mankind, so is he who discovers, teaches and will not allow devastating germs to grow where millions grew before. And so any contentions, that a purely veterinary curriculum and education is not within the scope of the intent and purposes of the land-grant colleges, even though it confer a professional degree, are not well founded.

Kansas has veterinary problems. It is the duty of the State to educate her children. In the past, many have gone to other states for this training. The state of Minnesota is making the most rapid and commendable strides in veterinary sanitation, and there is no question but that that state will, in the course of time, have less disease in her stock than any other state, and thereby command a higher price from packers for the sole reason that it will be bought without the risk of immense losses from condemnation after slaughter.

The pain and suffering in animals from disease and injury that can be prevented and allayed by skillful veterinary intervention should appeal to those who have the ideals of the Humane Society at heart. And as to the young man who is considering what niche in life he should prepare himself for, does the veterinary profession offer him a living, a dignity, a name, and a career? It does, all of these.

The early practice of medicine, both human and veterinary, was

founded upon empiricism and the art, rather than upon science as it is to-day. In the minds of the elderly there is still the memory of "quacks" in the human medical profession. It is now deemed a function of the state to protect its citizens by allowing only qualified, specifically educated men to compete in the practice of human medicine, and it is to-day one of the most dignified of occupations. Veterinary medicine is to-day passing through the same stages, and the "quack" and "hoss-doctor" will be gradually replaced by scientifically educated veterinarians. The field is not a narrow and limited one as many may think. There are many rich agricultural districts offering remunerative fields for efficient veterinarians to practice their profession. In cities there are opportunities for specializing similarly as in human medicine. They comprise veterinary dentistry, veterinary surgery, and practices confined to the feline or canine species. Large corporations, wholesale and retail, find it profitable to employ efficient veterinarians at a good salary to see that their large number of horses remain well and, in case of sickness, that they may be immediately and constantly attended to. They carefully observe all animals bought. Large stock farms find a similar need.

The U. S. Bureau of Animal Industry offers to veterinary graduates of recognized institutions, and who pass the required Civil Service examination, the position of "veterinary inspector" at a salary of \$1200 per annum to start with and gradual efficiency promotions to salaries that in some instances reach \$3000 per annum. The recent congressional legislation has created an immediate demand that cannot be supplied. Some of their duties are the inspection of the animals slaughtered in packing-houses doing an interstate trade. Others are detailed to quarantine work, and others as sanitary inspectors. This same bureau, as well as the various state experiment stations, wants thoroughly qualified and trained veterinary pathologists, veterinary bacteriologists, veterinary zoölogists, and veterinary chemists, and especially veterinary biochemists. Scholarships in research work are offered. Not long since, the Rockefeller Institute sought without success for a man specialized in diseases transmissible from animals to man. Public health officers with a knowledge of animal diseases are in demand. The United States army has positions open to qualified veterinarians at \$1500 per annum, and, no doubt, in the near future will be ranked with the officers similarly as in the European armies. The commissary department has veterinarians inspecting the meat contracted for army use, and they supervise every stage of its preparation in addition to that done

by the inspectors of the Bureau of Animal Industry, and an "army meat scandal" will perhaps never occur again.

Sanitary advancement in progressive cities will soon bring about conditions whereby every animal contributing to the meat and especially the milk supply of its citizens will be healthy, and this will also furnish a field for the veterinarian. More pounds of meat and milk from diseased animals are eaten and drunk in one state in one week than are exported from the entire United States in one year, and, naturally, in due course of time this country must develop the same methods in regard to its local meat supply as does Germany. The national government has no jurisdiction over local conditions. State veterinarians, through the governor and legislature, should be privileged and able to select qualified veterinarians in a limited number of districts in their states and depute them for the minor state work that may arise in their localities.

Agricultural colleges are calling for teachers and institute lecturers to spread this knowledge clearly and effectively.

There is so much to learn nowadays in a human medical course that it is practically impossible to cover it thoroughly in four years' work, and every graduate of human medicine at the end of his fourth year wishes he could start right at the beginning and go over it again. To the young man contemplating entering a human medical school the veterinary course here is an immense aid and will make him a much better physician. In our medical colleges it is a well-established fact that the veterinary surgeons are looked upon as especially efficient in diagnoses, the most important feature of the whole medical course.

BURTON R. ROGERS.

Why We Need a Law Regulating the Sale of Concentrated Feeding-Stuffs.

Concentrated feeding-stuffs being relatively high in price, there is a strong temptation to furnish goods of inferior quality at the price charged for first-class grade. The value of a concentrated feeding-stuff to the purchaser depends largely on the per cent of fat and of protein which it contains. As these factors can be ascertained only by a chemist and judged of very imperfectly by ordinary inspection it is comparatively easy to adulterate feeding-stuffs without detection unless their sale is under chemical control. That such adulteration and sale of inferior goods is practiced upon the farmers of this State there can be no doubt. Complaints touching this species of fraud are of no infrequent appear-

ance in the agricultural press, and the correspondence of the Experiment Station has abundantly shown that the purchasers of cottonseed-meal, oil-meal, bran, shorts and other feeds have frequent reason to suspect that they are being defrauded by the seller. In a number of cases their financial interest has been such that they have gone to the expense of having analyses made, and in nearly every instance the results have shown that the feeding-stuff was not of a quality equal to that claimed by the seller. In some instances the feed furnished has been of a very inferior quality.

At the present time the sale of a cottonseed-cake is being energetically pushed and the claim made that it is equal to prime cottonseed-meal, whereas its chemical composition shows it to be very much inferior. It is reputably reported that oat hulls are shipped in by the car-load from the oat-meal mills and incorporated with mixed feeds, thus giving the impression that ground oats are a component of the same. It is similarly stated that immense quantities of corn-cobs are finely ground for the sole purpose of adulterating wheat bran. Rice hulls and other by-products of little nutritive value are also used in such reprehensible practices.

The feeders of the State are thus in need of protection from frauds of the character mentioned, and such protection can be obtained only through the agency of State laws and an inspection service scientifically, fairly and effectively conducted.

A law of the character indicated is also necessary to enable an honest miller or feed manufacturer to do business successfully. One of the greatest advantages of legislation of this character is that it eliminates dishonest competition. The honorable manufacturers of the State desire that those who are not honest by choice in their business methods shall be required by law to do business in a legitimate way. Not only is it important that the chemical character of a concentrated feed be guaranteed, but, as this is often sold by the sack, the net weight of the contents of every sack should be guaranteed. One species of fraud in practice at the present time is to sell bran in sacks which should contain one hundred pounds, but in which the dishonest dealer has packed but ninety pounds. The common purchaser has no means of weighing and is defrauded ten per cent.

That a law providing for the inspection of concentrated feeding-stuffs, and collection of samples and their analysis, can be made effective there is no reasonable doubt. Many of the states already have such laws in operation with great advantage to the farmers.

The fact that other states have such laws restricts the market for low-grade, adulterated goods, and the absence of any law in this State thus makes it a shining mark for operators of the species of fraud in question. The Experiment Station from time to time receives communications from manufacturers of feeding-stuffs inquiring concerning feeding-stuffs laws of this State. Such manufacturers can only be told that there are none of a specific character; they thus receive information that practically leaves them with a free hand. It is time for Kansas, the leader in so many things, to catch up with other states in the matter of protection against fraud, including the fraud of adulterating feeding-stuffs.

J. T. WILLARD.

The Corn Car.

The Missouri Pacific car which contains the exhibits of the prize-winning corn at the State contest held at Manhattan recently arrived in Topeka over the Union Pacific on Monday. It was switched over to the Missouri Pacific and was sent on the Missouri Pacific train to Overbrook this afternoon.

This car, which is now touring the State under the auspices of the Farmers' Institute Department of the State Agricultural College, is in charge of J. H. Miller, head of the Farmers' Institute Department, and Asst. M. Snodgrass of the Kansas State Agricultural College. Although the main purpose of the car is a corn show, there are twenty different varieties of wheat, different specimens of alfalfa, millet, and other farm products. There is also a large display of peaches, apples, and other fruit. The larger part of the car, which was constructed especially for exhibits of this kind, is devoted to corn. The corn samples are arranged on long tables on each side of the car. On one side is the exhibit of the best ears of the farmers' exhibits and on the other side are the ears which secured the highest ranking in the boys' contests. These samples are tied in bundles of ten ears each, each bundle bearing the name of the exhibitor.

The prize-winning corn in the white variety was won by S. G. Trent, of Hiawatha. He disposed of his ten ears for \$15. The yellow prize-winners were raised by W. R. Hildreth, of Altamont. Mr. Hildreth secured sixteen dollars for his ten ears. Both of the prize-winning exhibits are kept in glass cases as they are only loaned to the Agricultural College for this trip.

Although last year was the first year for a boys' corn-raising contest there were over five thousand boys in the State who entered, and \$3000 was distributed in prizes. It is the purpose of the

Agricultural College in running this exhibit car to stimulate more interest in the contest, and already the prospects are good for a much larger enrolment in the contest for this year.

An interesting story of perseverance attaches itself to the grit of one seventeen-year-old boy, J. M. McCray, who lives near Manhattan on a farm. This lad entered his corn in the contest at Manhattan but received only third place and a prize of \$6. He watched the corn judging in the county contest very intently with the result that he entered another exhibit in the State contest and won the fifty-dollar prize and first place. He retained only three of the original ten ears entered in the county contest. This netted him \$56 and he added to this pile by selling seed-corn to the extent of \$17.75, which brought his total up to \$73.75. He is intending to plant the corn of his ten ears next year, and then he says he will sell the seed which will net him a handsome profit in addition.—*Press Item.*

Teaching Agriculture.

“The study of agriculture is being taught in many of the schools of Lincoln county, thanks to County Superintendent A. J. Stanley, who has the welfare of the schools at heart. It is claimed that Lincoln is the only county west of the Missouri river in which this subject is receiving attention in the schools, and Superintendent Stanley has succeeded in having the subject of agriculture taken up in many of them. He urges the teaching of seed selection and testing, especially of corn, soil fertilization, urging the necessity of farmers using all the manure accumulating on the farm for this purpose, and planting and growing of such plants as will renitrogenize the soil, the preservation of soil moisture, and arousing a general interest in all farm topics and farm life of the boys and girls so as to stop the general drift of our young people to the towns and cities. Mr. Stanley believes all teachers can equip themselves to present some of these points. He says the plan is meeting with much enthusiasm.”

To the above clipping from the *Osborne Farmer* the *Topeka Journal* adds:

“The result will be that in ten years not only will the new generation of farmers be using new and scientific methods, but so will most of the old farmers. Lincoln county farms will be yielding fifty per cent more products from the same amount of acreage and labor as it now produces, and there will be comforts in farm life that most farmers now know little about. More than that, there

will not be so great an inclination among the boys on Lincoln county farms to rush off to Salina or Topeka or Kansas City and get a forty-dollar clerkship, or to become a second-rate doctor or lawyer. They will be more likely to go down to Manhattan and get a fuller knowledge of the chemistry of soils and the best methods of seed-breeding and farm management, and then go back home to put into practice what they learn. It is gratifying to note that Superintendent Carter proposes to inaugurate something of the same kind in the rural schools of Shawnee county next year. When the idea once becomes well started it will spread rapidly."

Missouri and Nebraska Corn Shows.

Professor Ten Eyck attended the Missouri State Agricultural Association meetings and Corn Show held at Columbia, January 8 to 11. He took part in the program of the Corn Breeders' Association as a speaker and also acted as judge of corn in awarding premiums, together with C. P. Hartley, of the United States Department of Agriculture. He reports a very excellent corn show at Columbia, a much larger number of samples being exhibited there than at the Kansas Corn Show held here, January 1 and 2. Professor Ten Eyck also attended the meeting of the Nebraska Corn Improvers' Association, held at Lincoln, January 17 and 18, addressing the association on the subject of "The Study of the Roots of Plants." He reports the Nebraska Corn Show a decided success. The prize winning twenty ears of corn, variety known as the Nebraska White Prize, sold for an even hundred dollars.

Although the shows of the other states were somewhat larger than the Kansas Corn Show, we can boast of having the highest scoring corn exhibited in the three states. The Hildreth corn, which took first in the yellow class and sweepstakes at the Kansas Corn Show, scored $95\frac{1}{2}$ points; the highest scoring corn at the Nebraska show scored $90\frac{1}{2}$ points; the highest scoring corn at the Missouri show $91\frac{1}{2}$ points, or four points less than the sample awarded first place at the Kansas Corn Show. In fact, *five* samples of corn in the Kansas show scored $91\frac{1}{2}$ points or more. It may be well to state here that Prof. M. F. Miller, of the Missouri Agricultural College, and Prof. E. G. Montgomery, of the Nebraska Agricultural College, judged and scored the corn at the Kansas show. This is a good showing and indicates that the farmers of Kansas are doing some good work in corn breeding.

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Local Notes.

And still they come.

Nearly 1700 students actually present.

A new literary society, the "Athenian," is being organized.

The sub-freshmen had a class party in the Women's Gymnasium Monday night.

B. B. Olsen, a freshman student from Willis, Kan., died of diphtheria Saturday evening.

The Cleveland Ladies' Orchestra gave a fine concert last Thursday night, in the Auditorium.

Reverend Thurston, of the Manhattan Congregational church, conducted the chapel exercises on Thursday morning.

There being no funds, the Board of Regents has cancelled all farmers' institute dates until the new appropriations are available.

Prosperity is abroad in the land. We notice that the *Kansas Farmer* sports a "new head" and an "enlarged girt." Good, brother Cowgill!

Professor McKeever has been invited to represent the College at the annual meeting of the Kansas Authors' Club, at Topeka, February 20, and to respond to a toast.

Applications for concerts by the College musical organizations are coming in from many sides. The department would like to respond favorably, if the students could spare the time.

Messrs. T. Luethy and G. Clark, two progressive dairymen of Junction City, were here last Thursday to look at our dairy stock and to see the milking machine at work in the dairy barn.

The new assistant of the Dairy Department, Mr. D. M. Wilson, comes from Kemptville, Ontario, where he was provincial inspector for the Canadian government. He comes to us well recommended and from the way he takes hold of things he is the right man in the right place.

The basket-ball team left Thursday noon for a game trip. They played Baker on Thursday night, Haskell on Friday night, and Ottawa on Saturday night. Following is the latest basket-ball schedule for February, as arranged by General Manager Dean: February 4, Nebraska University. February 6, Missouri University. February 8, Kansas University. February 12, Ottawa University. February 23, Kansas State Normal. February 26, Salina Wesleyan University.

The College Band, under the direction of Prof. R. H. Brown, will give a concert at Wamego, on February 21. A patriotic program will be rendered. The band numbers forty members and is in excellent trim.

The Department of Architecture and Drawing has three new assistants this term—Miss Doris M. Train, Miss Leona E. Moore, and Miss Charlotte Morton. Each of these is teaching two overflow classes in primary drawing. There are about 650 students enrolled in the department.

Captain Shaffer and two officers of the College battalion went to Oskaloosa, Kan., on Thursday to represent the College at the funeral of Lieut. J. G. Worswick, '05, who was killed in an engagement with Filipinos on July 22, 1906, and whose remains were buried with military honors in the cemetery of his home town.

The juniors planned to have a roller-skating party at the old down-town armory, Thursday evening, but the roof fell in just before the event was pulled off and caused much skirmishing around on the part of some of the boys. The Girls' Gymnasium was finally secured and the program was carried out as per schedule minus the skating.—*Students' Herald*.

The Secretary's books show the attendance by classes on January 25, 1907, to be as follows:

Seniors	127
Juniors	139
Sophomores	223
Freshmen	369
Sub-Freshmen	392
Preparatory	125
Specials	35
Graduates	12
Domestic Science Short Course, second term.....	69
Farmers' Short Course, first term	139
Farmers' Short Course, second term.....	38
Dairy Short Course.....	24
Total	1692

We wish that there might be a way of inducing the members of the legislature to stop the business of law making for a few hours and to come up to Manhattan to look over the needs of the State Agricultural College. If they could see for themselves the crowded condition of the class rooms, and halls, the inadequate equipment of many of the laboratories and shops, the large number of needed repairs and the earnest and business-like demeanor of the 1700 young men and young women of Kansas who are here to train themselves for useful lives and model citizenship, there would probably be no difficulty in obtaining the required appropriations. An hour spent among the students and teachers would quash every desire of the uninformed or over-economical member to lop off a single item from the list of our modest requests. Past legislatures have stopped the mill for half a day to inspect the great technical school of the State; the present legislature could do nothing better than repeat the biennial visit.

A number of teachers and students met in Professor Roberts' office on Friday afternoon and formed a voluntary class for the study of Esperanto, the new international language. The class will meet once a week.

Kansas has the corn fever. Everybody in Kansas is a corn booster. The State Agricultural College is playing corn as a top-liner in its curriculum. The Kansas Corn Breeders' Association is thoroughly organized and has the earmarks of something that has come to stay; in fact, all agricultural Kansas has joined in a systematic campaign to make Kansas the greatest corn-producing state of the Union.—*Kansas City Star*.

Governor Hoch has made the biennial appointments of the different State Boards much earlier than usual, and there is but one voice at this College with regard to the new members of our Board of Regents. The Faculty are satisfied that a better selection could not have been made. The names sent to the senate for confirmation are J. O. Tulloss, of Sedan; W. E. Blackburn, of Anthony; Edwin Taylor, of Edwardsville. Mr. Tulloss is an alumnus of the College and a highly successful business man. He has been a valuable member of the Board for the past four years and is well acquainted with the work and wants of the many departments of the institution. Mr. Blackburn is the well-known editor of the *Anthony Republican*, one of the strongest newspapers of the State, and Hon. Edwin Taylor is the president of the State Horticultural Society and a model farmer. Mr. Taylor has been a member of the State senate, and for many years a member of the State Board of Agriculture, and there are few men in Kansas who are so well acquainted with its conditions and needs. The different sections of the State are now well represented, and the College feels that it has a strong Board.

A bill has been introduced in both branches of the legislature, by Senator J. E. Brewer in the senate and C. A. Stannard in the house, creating a state dairy commissioner, providing for the preparation of literature for the education of Kansas dairymen and the producers of dairy products, for improving and advancing the value of such products, regulating the production, sale and shipment of milk, cream, butter and cheese and for the inspection of creameries, cheese factories, dairy barns and utensils used in the work. The dairy commissioner is to be appointed by the governor for a term of two years. The governor is required to appoint the commissioner nominated by the secretary of the State Board of Agriculture, the director of the Experiment Station, and the live-stock sanitary commissioner. The appointment is to be nonpolitical, and the commissioner must have a practical knowledge of and experience in the manufacture of dairy products and the feeding and handling of dairy cows. The salary is \$2000 a year and traveling expenses, and he must give a bond for \$10,000. The bill also provides that the office of the commissioner shall be at the State Agricultural College, and a deputy commissioner is authorized who is to receive \$1200 a year.

Alumni and Former Students.

J. Loyd Pancake, '00, is moving from Tully, Kan., to Mt. Airy, Ga., there to make his future home.

The funeral of J. G. Worswick, '05, who was killed July 22 in an engagement with Pulajanes near Burean, Island of Leyte, Philippines, was held at his old home, Oskaloosa, Kan., Wednesday afternoon, January 23.

We learn from the *Students' Herald* that: Hattie Forsythe, '04, and Ralph Felton, '04, were married at the Forsythe home, Dwight, Kan., Wednesday, December 19. . . . J. G. Chitty, '05, and Minnie Ise, junior last year, were married December 30, at Downs, Kan. . . . C. E. Davis, '06, was married January 1, 1907, to Miss Rose Morely, of Parsons, Kan. . . . L. S. Edwards, '03, is the father of a son, born January 6.

We notice by a New York daily, that Miss Flora Rose ['05], of New York, (formerly assistant professor in the K. S. A. C.), will lecture in the winter course in home economics this week at Cornell University. She will be followed by Miss Van Rensselaer on house furnishings and decorating. The best teachers in the world are secured for these lectures. Professor Carpenter lectures in the same course upon ventilating and heating.—*Nationalist*.

W. C. Lane, '05, has been appointed assistant in physics. Mr. Lane made an excellent record as a student, and since his graduation has been in the employ of the Allis-Chalmers Company. He first completed an apprentice course and has since been employed in the testing department of the Bullock Electrical Manufacturing Company of Cincinnati, this company being a part of the Allis-Chalmers organization. Mr. Lane will doubtless do good work in his new position.

O. H. Halstead, '95, has resigned his position as assistant in physics to take charge of the office work of the E. L. Knostman Clothing Company, Manhattan, Kan. Mr. Knostman's business here and at his branch stores has increased to such an extent as to lead to the incorporation of a company which includes Mr. Halstead, and of which he is the secretary. Mr. Halstead has given special attention to this line of work for many years and finds it to his advantage to make the change. During his connection with the College he has performed his duties with energy, ability and satisfaction to all.

Capt. E. A. Helmick, third-year student in 1883, is now stationed at Ft. Liscum, Alaska. In an interesting letter Lizzie (Clarke) Helmick, second-year student in '83, tells of their experiences in that arctic post. Ft. Liscum is about four miles from Valdez. When they arrived there last July they had no nights; now they have had no days since the middle of November. Two years ago the snowfall was 79 feet between October and July. The first snow this year was three feet in depth. Ex-Governor Leedy is practicing law in Valdez and entertained the Helmick family recently, and the occasion was one of much talk concerning Kansas affairs. Captain Helmick will be stationed at Ft. Liscum two years.

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Chas. Yost.....	Assistant in Heat and Power Department
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No. 14

Worth in Novels.

Among the many half-understood terms of an average vocabulary there are few more variously used than the term novel. It is taken to stand for any kind of literature with a story in it, from the sermon that the minister puts into the mouths of a few trite characters, to make it more attractive, to the trifling, sensational tale whose only value is to amuse, but the latter is the more common acceptation of the term.

To amuse is certainly not a deep purpose for a book, but it need not be an unworthy one. Many hard-working people get great comfort and relief from the oblivion to worldly cares that a rousing good adventure story or historical romance brings. There are few things more delightful after a day of hard routine, where everything around is monotonous and matter of fact, than to dash away into that delightful but perfectly impossible kingdom of Graustark and lose oneself among the kings and princes and venturesome Americans for a while; or to help Sherlock Holmes track a villain to his lair by the most miraculous of clues. But those who are versed in this sort of story should not feel that they know all there is to know about novels. In fact, these are not, strictly speaking, novels at all, but romantic tales.

A novel, according to the best acceptation of the term, is a piece of fiction which aims to portray life. Just as the picture reproduces the actual landscape, so the true novel reproduces the people and situations of real life.

To an active mind, life itself, with its multitude of opposing interests, its coincidences and its catastrophes all set in motion by and reacting upon human character, is more interesting and strange than any fiction, and the true novelist finds in this interest his impulse to write just as the true artist finds in the wonderful sunset or the rare face the impulse to paint.

This, of course, is the ideal conception of the novel, but it is a conception that has often been approached. A large per cent of the modern novels, even, have been written with a deeper purpose than merely to entertain. This is evidenced by the titles of

some. "The Real World," "The Web of Life," "The Wheel of Life" all suggest that the author is going to try to be honest and tell things as he sees them, and the story that follows bears out the suggestion. Other books of the same sort are: "The Awakening of Helena Richie" and "The House of Mirth." In one's own individual opinion, these books may be true to life, or may be overdrawn or out of proportion, yet nevertheless they stand as the honest record of the writer, and as such are deserving of consideration just as the honest opinion of any man on any vital subject is worth while to every other man.

But all these modern stories are slighter in structure and narrower in range than the works of novelists of fifty or sixty years ago. A common modern criticism of these older stories is that they are too long, but, measured by the standard of accurate representation of life, it is in this very feature that their chief merit lies. It is only to the very young or to the very shallow that life seems simple. Those who have experienced more of it know that it is exceedingly complicated.

The writers of most of the best-selling books at present are young, and a good many of them are producing a book a year. It is not possible for a man to accumulate much wisdom in a year, especially when he is rushing to get his book out before the holiday sales begin and when he knows that if he gets it too wise it won't sell. Everybody is in too great a hurry now-a-days for a good novel. The writers of the Victorian period were men and women of middle age before they began to write. Most of them had learned life by hard knocks; they were qualified to speak with authority and did not try to do justice to the subject in a story that could be read in one night. They devoted page after page to the description of places and the explanations of characters and situations. This was necessary, because their people were not the idealized types of the romantic tale, that the reader has already met a good many times before in slightly different guise and hence can easily reconstruct, but they were actual people, mixtures of good and bad, wisdom and foolishness. To portray such life-like people requires an accuracy that could not be conveyed in a brief space. The places described by such authors as Dickens, Eliot and Scott are real, also. They are the cities, towns and counties in which the authors themselves had lived.

The success of the novelist, of course, depends largely upon his native endowments for his task, his understanding of the laws of expression, and his ability in the use of language. These points furnish material for the discussions of the learned critics, but

the most unlettered reader, if he be wise in the school of life, can detect the ring of sincerity in a story and be able to know when the author is speaking with authority and is to be believed. Such a one can learn much from any true novel—much about history, much about places he may never be able to visit, and about the customs of people he may never be so fortunate as to meet. He can broaden his own experience of men and things by seeing for a time with the eyes of another. He can make of himself, if he will, a cosmopolitan without going outside the walls of his own home.

The test for true worth in a novel is whether it lives or not. Hence, it is not possible to speak in positive terms of any new book. The tricks of the trade may give a story popularity for a time, but it takes more than skillful jugglery to make one live. Read "Graustark" over again and the illusion is gone—the tricks are laid bare; read "David Copperfield" over again any number of times and you will decide each time that it is truer than you thought at first. This has been the verdict of the majority of readers since the book was published fifty odd years ago, so we can say with assurance that it is a good novel.

CAROLINE HOPPS.

The Absent Member.

A perusal of the absence blanks filled out by the students of this College during one term will furnish an interesting pastime for the student of human nature. The excuses given for missing recitations range all the way from the brusque statement "nec" (necessary) to a detailed account of home affairs or an elaborate argument in justification of the absence. Not fewer than twelve young men, all of the same class, were afflicted with "cold feet," while one robust freshman was suffering from a bad "coal" in the head.

There are many students who pride themselves on an unbroken record of attendance, while others seem to take pleasure in the thought that they may have at least nine unexcused absences with immunity. The former often persist in attending all their recitations in spite of inclement weather or physical disability. The latter frequently display noteworthy ingenuity in the variety of excuses offered. It is conceivable that two-thirds of the 9876 absences recorded below were both unnecessary and inexcusable if judged in each case by their merits. More than one-third of them were actually not excused by the instructors. It is evident that some instructors are considered "easy" in the matter of

accepting excuses, while others are known to accept very few, if any. The latter sometimes influence the record considerable by grading students according to their attendance at recitations.

One's every-day conduct is made up largely of a set of predispositions. Inherited tendencies modified by early training form the basis of these predispositions. It is just as natural for some students to attend recitations regularly as it is for others to "cut" classes frequently, and the converse is true. For either class to take up the habit of the other would require much effort and attention to the task. There is in College now a student who has during the present year made a radical change from a bad example of the second class to a worthy example of the first. He is really at work making over his own character. A year's time will prove his success or failure.

The sick brigade is constituted of an interesting species of the genus absentee. It is singular that the death rate should be so low. Out of more than one thousand different cases of sickness, covering absences from 3168 class recitations, not more than one proved fatal.

I believe that in the majority of these cases sickness is a synonym for ignorance or negligence of the simplest hygienic laws. Not a few of the sick reports handed in are pure misrepresentations. But a larger number are founded on facts of physical disability of various degrees. A big, broad-chested young man, weighing 180 pounds and otherwise possessing in outward appearance the marks of an athlete, hands in a dozen excuses during the term with "headache," "stomach trouble," "indigestion," and the like, written on the blank. The instructor sets him down (mentally, of course) as either a big, soft baby, spoiled in his training, or an ignoramus who needs some practical lessons in hygiene. His excuse is usually an indirect admission of some kind of intemperate living, which might easily be avoided. Some sort of heroic treatment ought to be resorted to in these cases. I have the names of twenty-two young men who aggregated during one term 397 "sick" reports. Chronic invalidism is by far less common among the young women of the College. Of course, I do not attempt to deny, however, that there are numerous cases of actual, unavoidable illness among the many students in attendance here.

The table below shows a gradual decrease in the average number of absences as one advances from the freshman to the senior year. The freshmen also lead in the number of unexcused absences. The highest record for illness is held by the sophomores.

In justice to the majority, it ought to be said that the total list of absences is increased disproportionately by a comparatively small number of students, who are chronic absentees.

SPRING TERM, 1906.

	Mas.	Fem.	Total.	Av.
SENIORS	60	34	94	.....
Absences for the term.....	317	194	511	5.5—
Unexcused absences.....	174	64	238	2.5+
Reports of sickness.....	45	81	126	1.3+
JUNIORS	91	48	139	.....
Absences for the term.....	820	501	1321	9.3+
Unexcused absences.....	340	177	517	3.7+
Reports of sickness.....	231	306	537	3.8+
SOPHOMORES	106	51	156	.....
Absences for the term.....	961	714	1675	10.7+
Unexcused absences.....	337	208	545	3.5+
Reports of sickness.....	348	330	678	4.3+
FRESHMEN	316	162	478	.....
Absences for the term.....	3879	1590	5469	11.5
Unexcused absences.....	1526	660	2186	4.5
Reports of sickness.....	1149	675	1824	3.8+
ALL FOUR CLASSES	573	295	868	.....
Absences for the term.....	5977	2999	8976	10.3
Unexcused absences.....	2377	1109	3486	4.0+
Reports of sickness.....	1776	1392	3168	3.6+

WILLIAM A. MCKEEVER.

The Teaching of German.

The sounds of the battle waged off and on between the adherents of a classical education, and those claiming better results for instruction in modern languages reach us now and then. Those who believe in the preëminent value of Latin and Greek have had to give way step by step. Stronghold after stronghold has been taken till to-day the modern languages are battering for admission and equal rights at the staid English universities, Oxford and Cambridge. A sort of truce has been called for Latin, but the cry is still: "Down with Greek!" One need only see the conviction with which men like Charles Francis Adams talk and write on the subject of modern languages versus Greek to see why Greek has become less and less popular in this practical age, while the modern languages have gained in popularity as subjects of instruction.

German and French, above all, are exceedingly important for commercial and scientific purposes and are also of very great cultural significance. As a means of mental discipline, German can be made to compare very favorably with Latin. Both are some-

what involved, have fixed sentence structure, whereas French is looser, freer, more limpid. Let him who cries down the value of German for mental discipline read a volume of Ranke or of Kant in the original!

Yet Latin and German should not be considered rivals in our courses of instruction. Latin is invaluable for an understanding of the English vocabulary; German teaches us to think more carefully of the meanings of some of our phrases, to get the original meanings of our words of Teutonic origin. Latin gives an incalculable advantage in learning the many Roman languages; German, especially when studied historically, helps us to learn, or, more to our purpose as busy men and women, to read with ease Dutch, Danish, Swedish, and Norwegian, and subordinate dialects. Formerly Latin was the common written language of the learned world, and some of the Dutch and German doctors' theses are still written in that tongue. Later French drove Latin from this position and became in addition the language of diplomacy and etiquette. But now German shares with French and English the honor of being the vehicle by which discoveries in science are announced, and French has lost much of its prestige as the language of diplomacy.

The innovations in language instruction have been many and marked. In modern-language work, in German which more especially interests us, extremes are still found. In some schools the aim seems to be to make grammar a tabooed subject, to rush the students into translation with no conversation, no written work, no comparison of synonyms or "near-synonyms." *Pferd* "horse," *Ross* "steed," and *Gaul* "nag" are identical in meaning to students so instructed. In the second year, or at the most in the third, Faust is read and essays on the philosophy of Faust are read and discussed in the class room. Imagine a German in his second year's study of English learning that such expressions as "Macbeth hath murdered sleep" are standard English, and using proudly on every possible occasion the expression "hath murdered!" A maximum of good modern prose and a minimum of poetry containing archaic and unusual forms should be read.

In other cases conversation is emphasized to the practical exclusion of all other features. This is decidedly the best method if one wishes to secure quickly a speaking knowledge of the language and simply that. On this principle are founded the Berlitz schools of language, and to it they owe their great success in this one line. But to one who wants to master the language for reading purposes this method will leave many obstacles in the way—obstacles which

are insurmountable unless a very large amount of time has been spent in learning the language. For adults with little or no scholastic training, or for those who have "forgotten how to study," the conversational method is excellent; for earnest students, however, results are incommensurate with the time and trouble involved.

Other extremes are to put a large proportion of the time on written translations of English into German, or to employ a great deal of time in learning German poems. That these methods, and especially the latter, will not produce the results striven for must be patent to all.

The only safe way is to put the class at mastering the main points of grammar; at translating passages read into clear, forceful English; at translating now and then passages from English into German (written and oral work alternating); at conversations based on the text read, but not following the phraseology of the latter too closely. A combination of these points should lead to excellent results though the returns in any one line will naturally be less satisfactory than if that line were pursued to the practical exclusion of the others. There is no royal road to the acquirement of a foreign language.

JOHN V. CORTELYOU.

Industrial Education in Vacation Schools.

The problem of taking care of and helping the children of the poor during summer months becomes one of utmost interest in large cities. It is being met in part by the vacation schools, which hold during six weeks or more in the most thickly settled and miserable parts of the large cities.

To understand the value of these schools in any degree one must go into the parts of the city where they are held and see the conditions of the streets in the overcrowded factory districts. Life in the mills is a hard one, and wages poor. Take a typical family: mother, father, four or five children, the oldest of which may be a boy of twelve, the youngest less than a year old. To support the family both mother and father work in the mill from 6 A. M. until 6 P. M., taking dinner with them; which means they are absent from home all day. The oldest boy, although under age limit, succeeds in getting small work in the mill. There may, or may not, be a younger girl to take care of the children. At any rate there are six or more families in the same tenement in a similar condition. The work of caring for and bringing up these families falls on the oldest one at home, who is scarcely more than a child. Even one who has never visited such a district can easily depict conditions.

The vacation school varies in different cities. In many it originated through charities of some woman's club, and then fell indirectly into the hands of the school authorities. In others the citizens have seen the value and advisability of such schools and established them as a part of the public-school system. In some cases they are held in large vacant lots, where tents can be erected, and are called play-grounds; in other cases they are held in public-school buildings. There are several departments represented in them, all generally of an industrial nature. Few of these children obtain more than a grammar-school education, and here they can learn something of a practical nature. Girls that are old enough to handle a needle may take sewing, basketry, millinery, or domestic science; while the boys may take wood-work, metal-work, and basketry. In addition to these departments there is a play-ground equipped with sand piles, swings, tilts, hammocks, trapezes, and a small library from which the children may draw books. There are always teachers here to instruct the boys in baseball and basket-ball; to lead the girls in games.

Looking in on such a session, which holds from 9 to 12 A.M., generally one finds all types of children, varying in age from six months to twelve years, from dirty to very dirty. One will find young girls holding babies in their laps while they fashion warm clothes for the winter months to fit these little ones. These girls bring their families, take care of them, and learn something useful meantime. Small girls and small boys learn to cook here and are served a luncheon, where otherwise there might be none. The boys learn sloyd and basketry and prove themselves adapt at the work. When the work drags there are always the tilts, swings, books to read, and a sand pile to play in. In some of the schools the girls are taught how to care for and feed the babies. So older and more practised hands train the little mothers to care for their families during the summer heat. It helps them in a practical every-day way, which reaches into the individual home and tells on the family life there. It helps the boys to become useful mechanics and to learn fair play from their athletics. It helps all to become better citizens and keeps them off the dirty streets of an overcrowded district. It relieves parents of mental anxiety and keeps the children in a sweet moral atmosphere.

In short, the vacation school offers a moral and an industrial education to the lives of those who need it most, and their need of it is surely recognized by any cognizant with conditions in poor districts of the manufacturing city.

CLARA WILLIS.

Large Crops—Result of Breeding and Better Culture Methods.

In connection with the "Thanksgiving Proclamation for Kansas" it may not be out of place to call attention to the work which the Kansas Agricultural College and Experiment Station is doing to promote this "thankful feeling." Due largely to the teaching of the Agricultural College and work of the Experiment Station, thousands of farmers all over the State are growing "pure-bred" corn, which by some of the reports of the farmers has outyielded the "scrub" corn of their neighbor two to one. During the past three years the Agronomy Department has sold and distributed among the farmers several hundred bushels of well-bred seed-corn. Corn judging has been made a prominent part of the instruction in agriculture at the College, and through the Farmers' Institutes, Corn Breeders' Association and agricultural press the farmers have been well informed and greatly interested in corn breeding and better culture methods, which factors have, without doubt, had much to do with increasing the average yield of corn by more than seven bushels per acre for the season of 1906, a year which has not been considered an "extra-good" corn year. In fact, partial crop failures are reported in many localities.

It is true of wheat also, that with almost a crop failure in the Central-Western counties of the State the total yield is second to the largest crop ever harvested within the State, and the average yield per acre for the State is a bushel above the average. More than one thousand bushels of good seed-wheat of the best-producing varieties have been distributed by the Experiment Station, and better culture methods have been put into practice by the farmers, due partly, at least, to the teachings and example of the Agricultural College and Experiment Station. It is quite possible that well-bred seed and better preparation of the seed-bed added several million bushels to the wheat crop of the State.

If we can increase the yield of wheat one bushel per acre by improving the seed and practicing better methods of culture, it will add three to four million dollars to the annual income of the wealth producers of our State. If we can add ten or more kernels to the ear by breeding corn, it means two million bushels added to the annual corn crop of the State, and seven bushels per acre more corn this season means forty-five million bushels more corn than the average production of the State for the last ten years.

In like measure, also, the instruction in stock judging and dairying at the College and through the bulletins and farmers' institutes has had its share in improving the live stock and increasing the value of the animal products.

Providence has given us an abundant harvest in a large part of

the State, for which we are truly thankful, but the farmer also has done well his part. Of course the average yield of several future years will prove more conclusively whether careful breeding and better culture methods are the important factors to which we owe something of our bountiful crop the past season.

A. M. TENEYCK.

A Military Road.

Congressman Curtis has introduced a bill for constructing a military road from Fort Leavenworth to Fort Riley, a distance of about 125 miles. The road is to be built under the direction of the Secretary of War and along a route to be selected by him. The bill directs that the labor shall be performed by prisoners in the federal penitentiary. Mr. Curtis says the road's construction will not be an expensive undertaking for the government if it is done by convict labor, as much of the stone will be supplied by people living along the route. The plan to make a military road between Fort Leavenworth and Fort Riley was first talked of last summer at the time of the army maneuvers at Fort Riley. The troops from Fort Leavenworth and some of the military organizations making overland practice marches had some trouble in getting through because of excessive rains. Some of the organizations had to camp several days at one point until deep muddy roads dried up before they could get through. At one time it was found almost impossible to drag the cannon of the artillery batteries through.

Congressman Curtis visited the maneuver camp at Fort Riley at the rainy season, and he announced at that time that he would introduce a bill in Congress to appropriate money to build a military road by the use of convict labor. The proposition met with strong favor in military circles at both posts. The officials at these two big army posts have always been anxious for a good connecting road.

So far no definite plans for the road have been determined upon. However, in the talk that followed the announcement of Congressman Curtis it was planned to put down a macadam road from Fort Leavenworth to Fort Riley by way of Lawrence, Topeka, St. Marys, and Manhattan. The rock to make the macadam is of easy access most of the way on this route.

It is suggested that convict labor from both the United States civil and the military prison be used and that building should commence at both ends. At present there are about 1800 prisoners in the two prisons, and there probably will be nearly 3000 in about two years.

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Local Notes.

Seventeen hundred students here.

Professor McKeever reports a new Kymograph.

The mid-term examinations will be held Saturday, February 16.

The foundry made a 2200-pound run of iron last Saturday afternoon.

The annual catalogue of the College will contain nearly 2000 names this year.

There are 330 students taking wood-work this term, while there are but 220 kits of tools.

Foreman Wabnitz, of the machine-shop, has been under the weather for several days this week.

The senior mechanical engineers have put in a concrete foundation for the vertical engine in the laboratory.

Miss Ella Weeks, of the Department of Architecture and Drawing, has 280 students enrolled in her classes.

The Dairy Department is analyzing twenty-four samples of butter from the Continental Creamery Company, at Topeka.

Professor Kinzer will read a paper on "Beef Production" before the Central Short-horn Breeders at Kansas City next week.

The Hamiltons will give a reception in Kedzie Hall to-night (Saturday) in honor of their victory in the intersociety oratorical contest.

President Nichols was at Topeka several days this week conferring with the legislative committees with regard to the needs of the College.

The mercury lights formerly in the cupola of the Auditorium have been placed in the engineering drafting rooms and are proving very satisfactory.

Professor McCormick was called to Winfield last week to inspect the materials available for use in macadamizing the city streets. In the evening he gave a talk on road building before the city council.

Prof. Henrietta W. Calvin was called away last Friday by the death of her mother, which occurred the day before at Wichita, Kan. Mrs. Nyson had been in her usual health until within a few days, and the end came very suddenly and unexpectedly.

A session of the Riley County Farmers' Institute will be held in Manhattan, Wednesday, February 13. The program will be announced next week.

The door arch at the west side of the old Armory has settled so that the main door can not be closed. It will be necessary to thoroughly repair it as soon as the weather will permit the stone-masons to work. As the building was erected in 1870 and changed and repaired many times since, it may be pardoned for showing signs of senility.

John Trout and wife, of Pratt county, Kansas, were visiting with Superintendent Rickman and family this week. Mrs. Trout is a sister of Mr. Rickman. The Trouts were on their home trip from an extended visit in Iowa, where they formerly lived. They are engaged in farming in Pratt county, where they own one of the most extensive and finest farms in that part of the State.

President Nichols returned Monday from a trip to Denver, Colo., where he had attended the Trans-Missouri Dry-Farming Congress. He was on the program for a report of our dry-farming work at Hays Experiment Station and served on several committees. While there he met a number of former students of this College, among them Professors Olin and Bainer, now of Colorado Agricultural College.

The College basket-ball team returned on Sunday from a game trip, tired and footsore. They had had rather bad luck. The game with Ottawa University resulted in a score of 44 to 25 in favor of the Baptists, the game with Baker went for the Methodists, with a score of 70 to 24, and the game with Haskell stood 54 to 39 in favor of the Indians. However, the boys had a good time. They speak well of the treatment received at the last two places.

Professor Picken, superintendent of the Fort Hays State Branch Normal, was a welcome visitor last Friday. He attended chapel in the morning and in company with Professor Walters looked over the work and equipment of the different departments. Mr. Picken had never been in the great technical school of the State before, and was greatly interested in the many evidences of growth which he saw everywhere. He promised to organize an excursion to Manhattan some time next June to show the College to his students and the citizens of Hays and vicinity.

The rumor is out over the State that diphtheria and scarlet fever are rampant in Manhattan. We can only say that this is positively not so. The health of the city and the College has been exceptionally good all winter, and there has been no contagious disease here at any time since the beginning of the fall term. During the past two weeks the damp weather has caused some "colds," and in a few cases these have been quite persistent, but as far as we know they have not been particularly dangerous. Among 1700 students there is always some sickness. Every year there are deaths among the large "College family," but we repeat that the general state of health is exceptionally good this term.

We asked Professor McFarland the other day how many classes he had organized this term in his department, and how many assistants he had. The Professor shook his head and said that he had not yet had time to count them. There must be over sixty classes and over twenty assistants.

The third annual concert of the Choral Union will be given on the evening of Thursday, March 21. This time should be looked forward to as a festival occasion by all lovers of music. The past two years the Union has been working under difficulties, but in spite of this it has proven itself to be worthy of much praise. This year they will render a program of classical music, being aided by two imported artists, who come to us highly recommended. Professor Valley deserves credit for his efforts and the interest he has awakened along musical lines, as director of the Union, and also for the interest he himself has taken in the members individually and as an organization.

Head Engineer J. Lund, of the Heat and Power Department, reports that it took over thirty tons of coal per day to feed the boiler fires during the past month. The total amount was close to one thousand tons. The coal is furnished by the State penitentiary free of cost to the State institutions, but its transportation has to be paid for. It amounts to \$1.65 per ton, including the hauling from the Union Pacific depot. Four stokers, an engineer and several teamsters with teams are steadily employed by the department to work on the heating task. The boiler capacity of the plant is nearly one thousand horse-power, but all the boilers are rarely in use at the same time. When more than five hundred horse-power are fired it becomes necessary to hire additional help from the ranks of the engineering students. It is a big and responsible "job" to run the heating plant satisfactorily in an institution as extensive as this, and the "job" is growing with every year.

The annual intersociety oratorical contest was held last Saturday night in the Auditorium. It was the most satisfactory contest of the kind ever held at the College. All the contestants did well. In fact, the difference in the grading of the first and second of the contestants amounted to only one-sixth of one per cent. The complete order of rank, as announced by the judges at the close of the contest, is as follows: First, R. W. Brink, Hamilton; second, Helen Huse, Eurodelphian; third, Charlotte Morton, Ionian; fourth, J. R. Garver, Alpha Beta; fifth, L. M. Jorgenson, Webster; sixth, M. M. Justin, Franklin. The judges on thought and composition were: Miss Maude Hamilton, State Normal; Professor Picken, Hays Normal; Professor M. E. Pearson, Superintendent of Kansas City, Kan., schools. The judges on delivery were: Professor Leach, Baker University; Miss Bertha Ball, professor of oratory, Kansas City High School; Professor Frazier, Kansas University. Professor Kammeyer, of this College, presided on the platform and complete order reigned during the evening, although at times the enthusiasm of the "rooters" ranked high enough to shake the roof of the Auditorium.

Prof. E. F. Ladd, of the North Dakota Agricultural College, and food commissioner of that state, has been making a study of Kansas oil. Professor TenEyck, of this College, has assisted him in securing samples and has recently received a letter from Professor Ladd, speaking very complimentary of samples of oil from this State which he has tested. He writes as follows: "I received the sample of oil. I thank you very much, as the sample is just what I desired to have, and has given me some very valuable data, leading me to conclude that, Kansas oil being debarred from the state under our present regulations, the law should be changed to admit the same."

Alumni and Former Students.

Chas. A. Scott, '01, was married Wednesday, January 30, to Miss Perley Burnham Jewett, of Broken Bow, Neb. After May 15 they will be at home at Halsey, Neb. Many friends unite in wishing them long lives of happiness.

Albert Deitz, '85, has purchased 450 acres of land in Houston county, Texas, where he expects to establish a nursery for growing horticultural stock. He is finding difficulty in getting the right kind of a man to take charge of it, although offering liberal terms. Mr. Deitz's address now is 2747 Holly street, Kansas City, Mo.

Changes of address: Winnie (Romick) Chandler, '94, and C. A. Chandler, '00, Swope Park, Kansas City, Mo. Mary (Dille) Hulett, '00, and A. B. Dille, Jr., '99, Alamogordo, N. M. Amanda Culp (McCarty) Coats, '00, Liberal, Mo., J. A. Lewis, '85, 119 Madison Ave., Elmira, N. Y. W. E. Smith, '93, Independence, Mo. Clara F. Barnhisel, '04, White Earth, Minn.

R. A. Oakley, '03, is the author of Part VI of Bulletin No. 100 of the Bureau of Plant Industry on "Orchard Grass." The subject is not one upon which writers can wax enthusiastic as they can upon alfalfa, but Mr. Oakley shows that, properly handled, orchard-grass may be much better than it frequently is. The bulletin contains a full description of seeding the crop for the production of hay, pasturage or seed, and subsequent management. It would be a valuable bulletin to many Kansas farmers.

We learn from the *Jayhawker* that: Prudence Broquet, '00, has been Mrs. Bailey for three years and is living at Huerfano, Colo. . . . C. F. Kinman, '04, assistant horticulturist of the Alabama Polytechnic Institute, is combining a vacation and leave of absence and taking graduate work at Cornell University. . . . J. W. Fields, '03, has nearly completed his course at the Western Dental College and is spending most of his time at 936 Minnesota Ave., Kansas City, Kan., relieving humanity suffering from dental disorders. . . . Geo. E. Hopper, '85, contemplates purchasing a home in Manhattan. Mr. Hopper's business takes him away from home a good deal and he knows no better place of residence for his family than here.

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Historical Society

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# THE INDUSTRIALIST.

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## ***Practical Suggestions for Improving and Beautifying Rural School Grounds.***

In a former article in the INDUSTRIALIST, December 15, 1906, the matter of school-ground adornment was discussed in a general way and arguments were advanced favoring the adoption of a policy of improvement. The present article will deal with some of the practical problems that present themselves to a school board or school patron desirous of bettering the surroundings under which the children of his district learn so many of the first lessons of life.

*The Site.*—The selection of a site for a schoolhouse is a matter of no little importance, though there is plenty of evidence that our pioneer school boards did not always thus regard it. Too often they drove their stakes on the barest knoll or the stoniest hillside the district afforded, because, forsooth, the land was of little value for agricultural purposes. More commonly the selection was made with the single idea of securing a central location. In some cases it is still practicable to change an undesirable location, especially if a new house is to be built. If the district contains a spot that is convenient to reach, fertile, healthful, sheltered, well drained and commands a fairly good view, the authorities would be justified in procuring it for a school site at any reasonable price.

*The Grounds.*—Plentiful and cheap as land was in the days when most of our school-site boundaries were staked out in the new West, there is a pitiful stint of ground in many cases. In justice to the pioneers it may be said that this stint was perhaps not usually due to indifference or lack of foresight, but to the press of other matters, which, in the winning of the West, compelled a temporary adjustment of school problems as well as those connected with the making of a home, tilling the soil, and securing a market. It is more to the discredit of later comers if they have not remedied conditions thus temporarily established.

Two acres is the minimum area that should suffice for a rural school site. In most cases this amount is ample, provided it is all capable of being utilized. Often there is opportunity to include,



in addition, a bit of natural grove, the bend of a creek, or an interesting little meadow containing a pond. Where a school garden is contemplated, a little more ground would be required. The grounds of a union or graded school, arising from the consolidation of several districts, should contain not less than five acres.

*The Plan.*—In the first place it is desirable, if not imperative, that some definite scheme of improvement be mapped out in the grosser detail at least. Haphazard locating of buildings and play-grounds, arrangement of walks and grouping of trees and shrubbery may result in a condition more unsatisfactory than the first. Much that has been done at cost of time and labor may have to be undone later, because of the former lack of foresight. Prepare a plan on paper, provisionally at first, and then study it over until you have discovered the inconsistencies and imperfections in your first draft. Have the plan drawn on the blackboard and discuss its features at a district meeting. Consult, also, any accessible plans, diagrams and literature on the subject. Above all, adopt a policy of improvement and stick to it.

The plans for improvement, illustrated in the cut accompanying this article, have been prepared for a rural district near the Agricultural College. The main outlines are drawn on the scale of one millimeter to the foot. It may be well to state, by way of explanation, that the conventional designs representing trees and shrubs do not indicate number.

*Location of Buildings.*—It is better to have the school lot longer from front to rear than the border that fronts on the road. This will permit the house to be set well back, perhaps one hundred feet, and still leave ample room in the rear for the play-grounds, where they properly belong. A convenient and suitable place for the fuel shed is just back of the school building, which, by the way, should certainly have a rear entrance protected by a small storm entry. The two necessary outbuildings should be located near the rear border of the lot, one on each side of the play-ground. It is scarcely necessary to add that no school board with any sense of moral responsibility will still think of allowing the two buildings to be placed under the same roof, as has sometimes been done.

For the children who ride or drive to school, a shed with a few separate stalls for horses, and open to the south or east, is a great convenience. The housing of the animals will also tend to inculcate humane ideas. This building should also be set well back on the grounds and be approached by a driveway.

If the school lot is longer on the road or street than it is deep, a more commodious play-ground may be secured by locating the

schoolhouse quite near one end of the grounds; but usually it will look best if placed on the central line. On a corner lot the house may be located nearer the road than in the case of a lot that has but one frontage.

*Walks and Driveways.*—But one driveway should be permitted on the school premises. This may curve among the trees and shrubbery near one border of the grounds and end in a loop at the shed suggested above. A hitching-rack placed near one corner of the street front will be a great convenience, and obviate the necessity of tying to trees. Two or three walks, curving from points where the pupils would naturally enter the grounds to the front steps of the school building, are all that are necessary. If the lot has but one frontage, a single walk will suffice; but unless the house is quite close to the road this walk will look best if it has the form of a curve, entering the grounds at two points, say one hundred feet apart.

Very satisfactory and durable walks may be constructed by excavating the soil to a depth of twelve to fifteen inches and filling in with sand and a top layer of coarse gravel. The sand should be well tamped down, and when finished the walk should be rounded up a little higher than the lawn. The driveway may also be constructed in this manner. About five feet is a good width for the walk, and double that for the driveway.

*Fencing.*—It is very necessary that school premises be fenced, both to define sharply the limits of the grounds and to prevent trespassing animals from injuring the trees and shrubbery. It is usually not desirable, however, to have the fence extend along the border or borders fronting on the road. Local conditions may suggest or require different kinds of fencing material, but in the opinion of the writer the most satisfactory and slightly enclosure for school premises can be made of some one of the heavier grades of woven-wire lawn fencing, preferably with triangular or diamond-shaped meshes. This fence should be about five feet high, with durable posts set well in the ground and not over a rod apart. The corner posts must be set in concrete and well braced.

*Grading.*—It is best not to attempt very much grading—simply level off the little knolls and fill up the small depressions. A level school ground is not at all desirable; it would not drain well. If practicable, it should be made to slope gently in three directions from the house. Portions of the playground that are to be used for certain games could be graded to a more approximate level.

*Playgrounds.*—The value of healthful exercise for developing boys and girls can scarcely be overestimated. In order to get



such exercise, however, it is not necessary that they race like untamed colts over the entire premises. The front of the grounds should be reserved for a lawn. If the lot is as large as it should be, there will be ample room at the back of playgrounds. The space allotted to the boys may be separated from that assigned to the girls by a neat, low hedge of some sort. On account of the difference in space requirements for boys' and for girls' games, it may be well to give the former a little extra room. I can see no good reason why swings, basket-ball posts and like conveniences for recreation should not be supplied by the district board as a part of the regular school equipment.

Playing in the road or street bordering the school lot should be prohibited in most cases.

*The Lawn.*—In the western half or third of this State a lawn of native prairie grasses is the easier to maintain. A sod of mixed buffalo and gramma grasses will usually establish itself where the ground is not too much trampled. Bare spaces can be spaded or plowed up and covered with a carpet of sod taken from adjoining pastures. Such a lawn will seldom need trimming, but it should be kept free from competing weeds or accumulated trash of any sort. In the eastern part of Kansas, or farther west if water for sprinkling is available, blue-grass makes the most satisfactory sod for a lawn. The sod may be transplanted, as suggested above, or the seed may be sown on well-prepared ground. A top dressing of well-rotted manure, applied in early winter, is sometimes necessary to perpetuate a good thick growth of grass.

In most cases the lawn should occupy all the space between the house and the road and extend well back along the sides of the school building. Additional smaller areas may also be maintained when desirable.

*Planting.*—A few general rules should be observed in planting trees and shrubs. Avoid scattering them here and there over the grounds, where they will interfere with the view and obstruct the playgrounds. Mass them on the borders and in the corners, leaving the central areas open, except for an occasional group of shrubs designed for a screen or to ornament the lawn. Do not attempt to balance a feature of one part of the grounds by establishing an exactly similar feature on another part. Such an arrangement is too suggestive of bilateral symmetry and thus detracts from the impression one should get from a sweeping view of the entire premises.

Straight lines are objectionable in school-ground landscaping, whether appearing in the arrangement of the trees in a row or in

the borders of the areas occupied by belts and groups of trees and shrubs. Curved lines appear less formal and rigid, and are certainly more pleasing to the eye than straight lines.

The belts of trees on the north and west should be wider than the others because of the prevailing winter winds from those quarters. Other considerations aside, the rear belt may be the more extensive. On school grounds of the average size, group plantings, outside of the border belts, should include only shrubs. Do not plant anything so close to the school building as to shade any part of it in which there are windows. When local conditions appear to make it necessary to adopt the orchard style of planting—that is, in straight rows—the trees in one row should be set opposite the spaces in the adjacent rows.

*Shrubs.*—A thicket of native shrubs allowed to grow as they please in some rear corner of the grounds is interesting from the nature-study point of view. Such a neglected spot presents all the features of a plant society and suggests one of nature's wildernesses in miniature. The cultivated shrubs should be arranged in groups, either of the same kinds or of different kinds, rather than planted singly. When different kinds are grouped together, the taller forms must be planted in the center and those of lower growing habit successively toward the borders. A succession of flowering periods may also be considered in determining what shrubs shall form a certain group. Too much shrubbery scattered over the grounds gives them a crowded appearance. We must keep open centers. A few well-planned groups are much more effective from an artistic point of view than a wealth of greenery dotting the lawn. Some shrubs serve admirably for screening certain outbuildings or other objects that should not form prominent features of the school landscape. By planting shrubs in the inner curves or bays of walks and driveway we suggest a natural cause for these deviations from a straight line.

It would be difficult to select a list of shrubs adapted to all parts of this State, but the following do well on the College grounds at Manhattan, and most of them would succeed much farther west: Spireas, privet, honeysuckle, lilac, golden bell, barberry, mock orange, snowball, tamarix, and rugosa rose. If a hedge is desired, some dwarf variety of the barberry would probably best suit the purpose. Certain native vines, such as Virginia creeper, bitter sweet, wild grape, and smilax, will serve to hide unsightly objects or form arbors. The first named may be allowed to cover the walls of a stone building, but must be kept trimmed so that it will not run over the roof or windows.



*Kinds of Trees to Plant.*—In selecting the kinds of trees to form the border belts on the school grounds it is a safe rule to choose only from those that are native to the locality or have been thoroughly tested there by years of cultivation. Other things being equal, the long-lived trees should be given the preference; for it must be borne in mind that we are planting not only for our own children, but for troops of Kansas boys and girls who haven't happened yet. Some trees will stand transplanting better than others, and this fact will also help to determine our selections.

Cottonwood and boxelder make a rapid growth, but, except on the lowlands, they may not live long enough to pay for the trouble of planting and caring for them. They have also other objectionable features that render them undesirable for school-ground tree belts. One may include a specimen or two of each, however, if a showing is to be made of representative Kansas trees, such as is suggested in the cut accompanying this article. For general planting, elm, hackberry, honey locust and ash will give the best results. To these may be added, in the eastern half of the State, walnut and several species of oak. Golden willow, Russian olive and soft maple will give pleasing variety and can be grown in many localities, particularly on lowlands. The belt of trees on the north side of the school lot, being designed primarily for shelter, may be made up entirely or for the most part of evergreens. The Austrian and Scotch pines, certain spruces and our native cedar are best adapted for this shelter belt.

*How to Plant the Trees.*—It is a waste of time to plant trees in sod. The ground to be occupied by belts and groups should be plowed or spaded and allowed to mellow until just before planting time, when it should be pulverized by harrowing. The holes or trenches for the reception of the trees should be wide enough to take in all the roots left on the seedling, without crowding, and deep enough to allow the latter to be set to the level it formerly occupied or a little below that.

As soon as the ground can be worked in early spring is the best time to plant. The young trees may be selected from nursery or native timber belt at this time, or they may be dug up in the fall and healed in over winter. Without special facilities for prosecuting the work, it is not best to attempt to transplant large trees. It is, moreover, a difficult matter to make such trees grow after transplanting. Trees from five to eight feet in height are easier handled and will give better results. Select only such as have made a vigorous growth the previous season. Certain individual elms, particularly, have a scrubby habit which they never outgrow.

In taking up the young trees secure all the roots possible, or at least consistent with convenience in handling. Avoid exposing them even for a few minutes to sunshine or dry air. With a sharp knife cut back each root a little from the place where it was broken off, and trim the top of the tree to correspond to the reduced root surface. In resetting the tree one person may be responsible for holding the trunk erect and working the soil in among the rootlets while another handles the spade. Allow the roots to radiate at the levels of their respective origins and firm the soil about them frequently. If the earth is dry, water may be used in resetting, provided it is not poured on the surface of the ground or applied in such a way as to wash the soil particles from contact with the fine rootlets. A thin layer of loose soil should be left on top for a mulch.

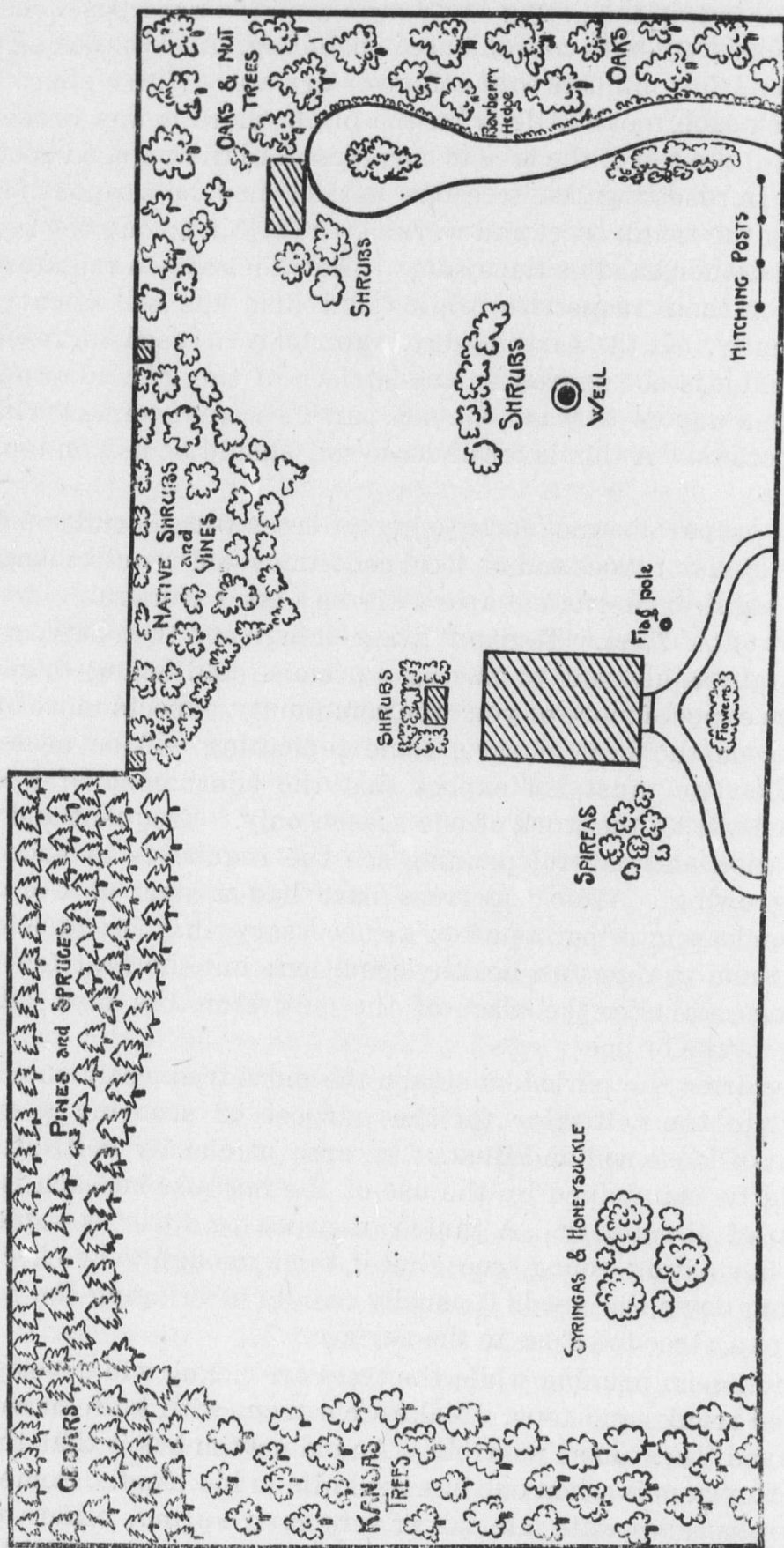
The proper distance for spacing the trees will depend somewhat on the kinds of trees and on local conditions and requirements, but about eight to twelve feet apart will be a good average.

*Care of the Trees.*—To plant living things and then neglect them is morally equivalent to making a promise and failing to keep it. Nature expects more of you; the community expects more of you. With even the best of care, some replanting will be necessary; but then we must not expect that the adornment of a school ground will be the work of one season only. Frequent and clean cultivation and careful pruning are the requisites to success in tree growing. After the trees have had a start of five or six years, clean mowing, as often as necessary, may be sufficient to keep them in vigorous, healthy condition; but the first few years nothing can take the place of the cultivator, the disc, and the garden rake or hoe.

The drier the period or season the more frequently should one resort to the cultivator for the purpose of securing a surface mulch of loose soil and dust. An area of cleanly cultivated soil should be maintained by the use of the hoe around each isolated group of shrubbery. A mulch of straw or litter is sometimes used in starting young trees, but if thick enough to be effective in keeping down the weeds it usually results in bringing the roots of the young tree too close to the surface.

Intelligent pruning while the trees are young will develop well-formed trunks and tops. Make a clean cut with knife or saw and leave as little stub as possible. An old maxim has it that the best time to prune is when one has the knife in his hand. Some horticulturalists advocate late fall or very early spring; others recommend early summer, when the tree has just come into full foliage.





Plan for Rural District near Agricultural College.

At this time the symmetry can be better determined and all wounds will heal quickly.

*Flowers.*—Any scheme for school-ground improvement would be incomplete without a provision for two or three flower-beds. These can be located almost anywhere on the lot, but they should be protected, at least a part of the year, by a border of bricks, stones, or low wire netting. All work connected with preparing these beds, planting, and caring for the flowers should be done by the pupils under the supervision of the teacher or some interested patron of the school. One bed of early spring bloomers might be prepared during the fall term and planted to bulbs of the tulip, hyacinth, narcissus, and crocus. A few clumps of different varieties of iris could also be provided for. All these will blossom out to delight the eye before school closes in the spring and will need no attention during the summer months. During the spring term the preparation of beds of fall bloomers may be undertaken. In these beds set plants or roots of chrysanthemum, golden glow, canna, coleus, and cosmos. Where this plan has been followed committees of two or more children for each week, or longer period, of the vacation have vied with each other in giving the best of care to the growing plants. If, after providing for the spring and fall bloomers, there is still superfluous zeal for floriculture, a bed of summer blooming annual or hardy perennials might be provided for; but it is best not to attempt too much and finish nothing with credit.

*The District Policy.*—One interested patron of a district can do much toward bringing about a policy of improvement. He may have to work alone for a time, but sooner or later he will secure the sympathy and coöperation of others. An enthusiastic teacher can be counted upon to do her share and to marshal her juvenile hosts into line. In fact, any plans for improvement that do not enlist the activities of the boys and girls deserve to fail; for better development of youthful character is the central idea in the whole undertaking.

Planting bees on quarter holidays, set aside for school-ground improvement, Arbor Day celebrations, setting out class trees, statemen's trees, poets' trees, and individual pupil's trees—all may be made red-letter events on the children's calendar. After all, though, the burden of responsibility in the matter of planning and supervising will rest with the district board. Perhaps no better arrangement could be made than to let the work by contract on the basis of plans and estimates, as is done in building. Some interested, responsible party living in the district will be more likely to carry out the provisions of a contract to the satisfaction of the patrons than anyone from outside.

THEO. H. SCHEFFER.



***K. S. A. C. Weather Report for January, 1907.***

There have been 31 colder and 17 warmer months of January in the past 48 years than the one just ended. The mean maximum temperature for the month was 36.50°. The mean minimum temperature was 22.40°. The mean monthly temperature was 29.4°, or 4.5° above normal.

There were only 7 clear days, 6 partly clear, and 18 cloudy days, or a greater per cent of cloudiness than usual.

Rain fell to the amount of 1.59 inches, or .87 inch above normal. The total precipitation for the month has been exceeded only in 1890, when 2.31 inches fell, and in 1891, when 1.63 inches were recorded.

The wind direction averaged from the N. E., with a run of 6366 miles for the month, or 524 miles less than normal. The mean daily run was 265.25 miles, or an hourly average of 8.56 miles.

The mean barometer was 29.12 inches; the maximum was 29.5 on the 17th and 22nd.

The rain-storm on the night of the 18th, with the thunder and lightning, was an unusual occurrence for January, thunder storms for this month being reported only in three of the 47 years.

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***Program.***

***Riley County Farmers' Institute to be Held in the New Court Room, Wednesday, February 13, 1907.***

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**MORNING SESSION.**

- 11:00 "The Orchard; Care and Protection".....Prof. Albert Dickens  
11:30 "The Best Varieties for Orchards".....Prof. W. Marlatt  
11:45 Discussion.

**AFTERNOON SESSION.**

- 1:30 Business meeting; report of committees, etc.; the contest for boys and girls explained.....Supt. J. H. Miller  
2:15 "The Corn Problem; Seed, Planting and Cultivation".....  
.....Prof. A. M. TenEyck  
3:00 Discussion.  
3:15 "Best Forage Crops to Feed with Alfalfa".....  
.....J. Warner, Valda Akin, George Hungerford  
3:45 "Poultry on the Farm".....Wm. L. Neusbaum  
4:00 Discussion.

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The Dairy Department has just completed one experimental period of lactation comparing the results of the milking machine with the old method of hand milking. The results are very interesting and much in favor of machine milking. They will be published in the near future, in form of a press bulletin.

# THE INDUSTRIALIST

*Published weekly during the College year by the  
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**Kansas State Agricultural College**  
Manhattan, Kansas.

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### Local Notes.

Drs. VonRiesen of Marysville and Engel of Manhattan visited College last Tuesday.

The Physics Department has just installed a 60,000 volt transformer for testing insulation.

The students from Wyandotte county have formed a club. They intend to meet regularly once a month.

Asst. W. C. Lane is initiating the junior electrical engineers in the art of making electric measurements.

The carpenter-shop has just completed eight new eight-foot extension step-ladders for Janitor Lewis and his assistants.

Professor Erf went to Haskell Indian School at Lawrence last Thursday to deliver a demonstrative lecture on butter making.

Mr. Jetmore, general manager of the International Harvester Company, will lecture in the dairy class room on February 15, on cream separators and gasoline engines.

The Rice Bros. Live Stock Commission Company, of Kansas City, Mo., has presented the Animal Husbandry Department of the College with a fine grade Shorthorn bull calf.

Contractor G. Gribi, of Wichita, visited College last Wednesday to look over the equipments and courses of study of the Departments of Architecture and Mechanical Engineering.

Professor Walters gave an address before the Manhattan Domestic Science Club on Thursday afternoon in the City Library. His theme was Michael Angelo, the architect, painter, and sculpturer.

Mr. Wieland, chemist of the Continental Creamery Company, Topeka, Kan., has been availing himself of the facilities of the Chemical Department to secure some practice and instruction in butter analysis.

Professor Willard was absent from classes several days this week, being again called to the Indian Territory to testify in behalf of the Treasury Department in a case of alleged violation of the oleomargarine law.

The representatives of the College literary societies who took part in the oratorical contest last week presented Professor Kam-meyer with a fine fountain pen as a token of their appreciation of his efforts in behalf of the contest.



The carpenter-shop is making a large shop wagon for use of the Engineering Department.

Prof. and Mrs. Brink gave a reception to the six participants of the College Intersociety Oratorical Contest last Thursday night, at their new home on Faculty Row.

Stenographer Wanted.—Graduate or former student of this College preferred. Address the Department of Farmers' Institutes of the Kansas State Agricultural College, Manhattan, Kan.

The tests of germination of seed-corn made by the Agronomy Department shows that much seed-corn which was not gathered till after the hard freeze in November is apt to be injured in vitality. Farmers are advised to test all seed-corn.

The College basket-ball team defeated the Lindsborg College team, January 31, in a game played in the Manhattan Auditorium. The score stood 46 to 28. On February 7 it defeated the team of Missouri State University at the same place, 39 to 18.

The following students and members of the College Y. M. C. A., accompanied by Sec. W. W. McLean, left for Ottawa, Kan., on Thursday, to attend the Y. M. C. A. annual convention: E. S. Taft, C. F. Blake, A. D. Holloway, Ben Davis, W. Y. McCall, Bert Smith, H. A. Præger, Walter Taylor, L. B. Michel, W. W. Strite, A. J. Ostlund.

The Agronomy Department has completed and sent to the Printing Department the copy for Experiment Station Bulletin, No. 144, on "Small Grains," covering the crop experiments of the last four years. It will make a pamphlet of about 75 pages and will be illustrated by many cuts of grain varieties. A bulletin on corn experiments covering the same period will be issued later.

A poultry experiment has just been completed in which various feeds were tested. Casein in form of dried milk, meat scraps and dried meat meal in connection with wheat, and patent poultry feeds in connection with millet, were fed. Corn was used as the basis of all experiments. The results were greatly in favor of the casein and the meat meal feed. The department will soon publish a bulletin giving the results in detail.

The seed-corn supply of the College is practically exhausted. Orders for some 400 bushels have already been received. The Agronomy Department has for sale 200 bushels of sixty-day oats at \$1 per bushel and 100 bushels of Mansury barley at \$1 per bushel. In lots of 10 bushels or more these grains will be sold at the reduced price of 75 cents per bushel. The department also has a limited supply of black hulled white Kafir-corn, red Kafir-corn, Kansas Orange and Coleman sorghum for sale at \$1.25 per bushel for first-grade seed and 75 cents per bushel for second grade. There are also 40 bushels of excellent seed flax for sale at \$1.50 per bushel.

The Dairy Department reports an important fact in favor of the milking machine used for half a year or more at the College dairy barn. At a temperature of 70° the milk obtained by hand milking becomes sour in 24 hours, while the milk obtained by means of the milking machine retains its sweetness for about 44 hours. The reason for this peculiar and valuable fact is easily explained. When milking by hand a large amount of bacteria from the outside of the udder is stripped off into the bucket and begins to multiply in the warm milk at once, while the milking machine makes such contamination impossible.

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### ***Notice to Contractors.***

Sealed bids will be received by the undersigned till 2 P.M. March 4, 1907, for the construction of a Y. M. C. A. building at Manhattan, in accordance with plans and specifications prepared by Holland & Squires. Bids must be accompanied by certified check for \$500.00, payable to the Treasurer of the Y. M. C. A. Building Committee, as a guarantee that the successful bidder will enter into contract and give bond within seven days after being awarded the job.

Plans and specifications may be seen at the office of Holland & Squires, Topeka, and at the office of the undersigned. Bids must be made out on bidding blanks found with the specifications.

G. A. CRISE.

Chairman, Y. M. C. A. Bldg. Com.

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### ***Alumni and Former Students.***

Elsie L. Waters, '98, and Charles Conner, of Albert Lea, Minn., were married January 31 near Manhattan, and left on the following day for their northern home, where Mr. Conner is engaged in farming.

J. M. Kessler, '99, and wife are the parents of a daughter, born January 28. Mrs. Kessler was Miss Emma Scheideman, student here in 1901 and 1902. Mr. Kessler is a wholesale and retail florist in Topeka.

From the *Students' Herald* we learn that Fred VanDorp, '05, and Miss Leona Reed, of Topeka, were married on January 16, and will live on Mr. VanDorp's farm near Topeka. The best wishes of many friends follow them.

L. P. Keeler, '99, and wife, of 819 7th North, Portland, Ore., are the happy parents of an eight and one-half pound boy, born January 19. L. P. is already making arrangements to have L. P. Keeler, Jr., enter K. S. A. C. as soon as he is old enough to pass the age limit.

We learn from the Bendena *Telephone* that the interests of the Bendena State Bank and the Farmers' State Bank have been consolidated and the business will continue under the name of the former, with Walter Zimmerman as president and Fred Zimmerman, '98, as cashier.



F. W. Haselwood, '01, resident engineer in charge of construction for the Western Pacific Railway, visited his mother in Manhattan last week and looked up old friends around College and town. After an absence of five years he finds evidences of growth and improvement on the campus as well as in the town. Mr. Haselwood's address is Altamont, Cal.

Henry L. Call, student in 1880, presented a paper on "Concentration of Wealth" before the American Association for the Advancement of Science, at its recent session in New York City. The article was prepared by request of members of the association who were familiar with Mr. Call's previous writings. It has aroused considerable discussion, including criticism. The latter does not, however, disturb him.

At the recent meeting of the Nebraska Improved Stock Breeders' Association, T. W. Morse, '95, editor of the *Breeders' Special*, made a speech concerning live-stock advertising. It was a good thing in every respect, but we were especially interested in the part which expressed his appreciation of the importance of teaching something besides technical agriculture in an agricultural college. He says: "There is on the part of the advertiser, not to mention the fieldman, no other one thing so necessary, or so scarce, in the live-stock advertising, as competence in the use of language, particularly in written discourse. A bitter factional fight once waged in the management of an agricultural college between those who wanted to keep up the academic standard and those who favored diverting more money to technical agriculture. In this country no surer way could be found to narrow and make boorish the coming farmers that are college students now than by teaching which neglects the studies that train the mind to perceive and through the tongue and pen to announce and record the result of its perceptions. In every class in grammar, word analysis or rhetoric are some who will soon be advertising their own business. Their success may depend upon their learning to write clearly, briefly, forcibly what they have in mind. Their ability to do this will depend partly on their mastering the meaning and shades of meaning possessed by different words. Words are like people; a well-written, orderly advertisement has the same relation in efficiency to a poorly written, haphazard one as has a battalion of trained troops to a leaderless mob. The money that has been wasted in advertising from no cause in the world but lack of clear, correct diction on the part of the writer would put steamboat service on the Missouri from Sioux City to St. Louis." All of this is quite true; and it may be added that advertising is not limited to making known material goods that we have for sale. No matter how thoroughly trained one may be in the special points of any occupation, if he is unable to express himself correctly, clearly and accurately his worth will be very much diminished. There is no doubt that Mr. Morse's care in the use of language, his ability to clothe a subject in attractive form, has much to do with the success of the *Breeders' Special*, which is certainly one of the most readable papers now offered to the agricultural public.

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Historical Society

Vol. 33

No. 16

*Issued Weekly By*  
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*Manhattan, Kansas*



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THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., FEB. 16, 1907.

No. 16

The Red Texas Oats Question: A Statistical Study.

It may be interesting to note further progress in a problem involving the supposed acclimatization of oats, of which earlier mention has been made in the INDUSTRIALIST, Vol. 32, No. 34. The facts as previously detailed are these. After Red Texas oats have been grown in this State for two or three years, they apparently turn to a sort having black chaff, and said to be inferior in yield and quality to the other. This phenomenon seems to be almost universal throughout the State and involves the constant repurchase of the red-oats variety from original Texas sources.

One sample submitted to the Botanical Department for experiment came from a farmer who had taken the seed from a crop which had been grown the second year in Kansas. A count of the number of red and of black-hulled kernels gave 39 per cent and 61 per cent as the ratio of the two sorts, respectively. A portion of the original sample of mixed seed was separated into lots containing the two varieties and consisting of 2309 grains of black and 1486 grains of red oats, which were sown thinly in separate rows for each sort.

The purpose of this planting was to ascertain the behavior of each variety under conditions not very different from those obtaining in the field. At the same time a similar planting was made of the original mixed lot, sown as thickly as is customary in the field. It was expected in this plot to discover which variety, if either, suffered the more in the struggle for existence among the roots and stems, under average field conditions. Unfortunately, the plants in this plot were subsequently destroyed by an accident.

The outcome of the study of the stooling capacities of the black and the red oats, however, as sown thinly in separate rows, gave some interesting results. The following table shows the plants of the two varieties which came through to harvest, tabulated with respect to the number of culms produced per plant.

TABLE I.—Stooling capacity of Black Oats.

No. culms per plant	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	24
No. of plants.....	4	7	15	15	13	17	17	10	9	9	6	3	2	1	5	3	1	1
Total.....	4	14	45	60	65	102	119	80	81	90	66	36	26	14	75	48	17	24

Grand total, 966. Total average culms per plant, 7.

TABLE II. Stooling capacity of Red Texas Oats.

No. culms per plant..	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21
No. plants..	1	6	13	7	7	19	15	12	7	9	4	11	7	6	5	3	2	2	1	3
Total..	1	12	39	28	35	114	105	96	63	90	44	132	91	84	75	48	34	36	19	63

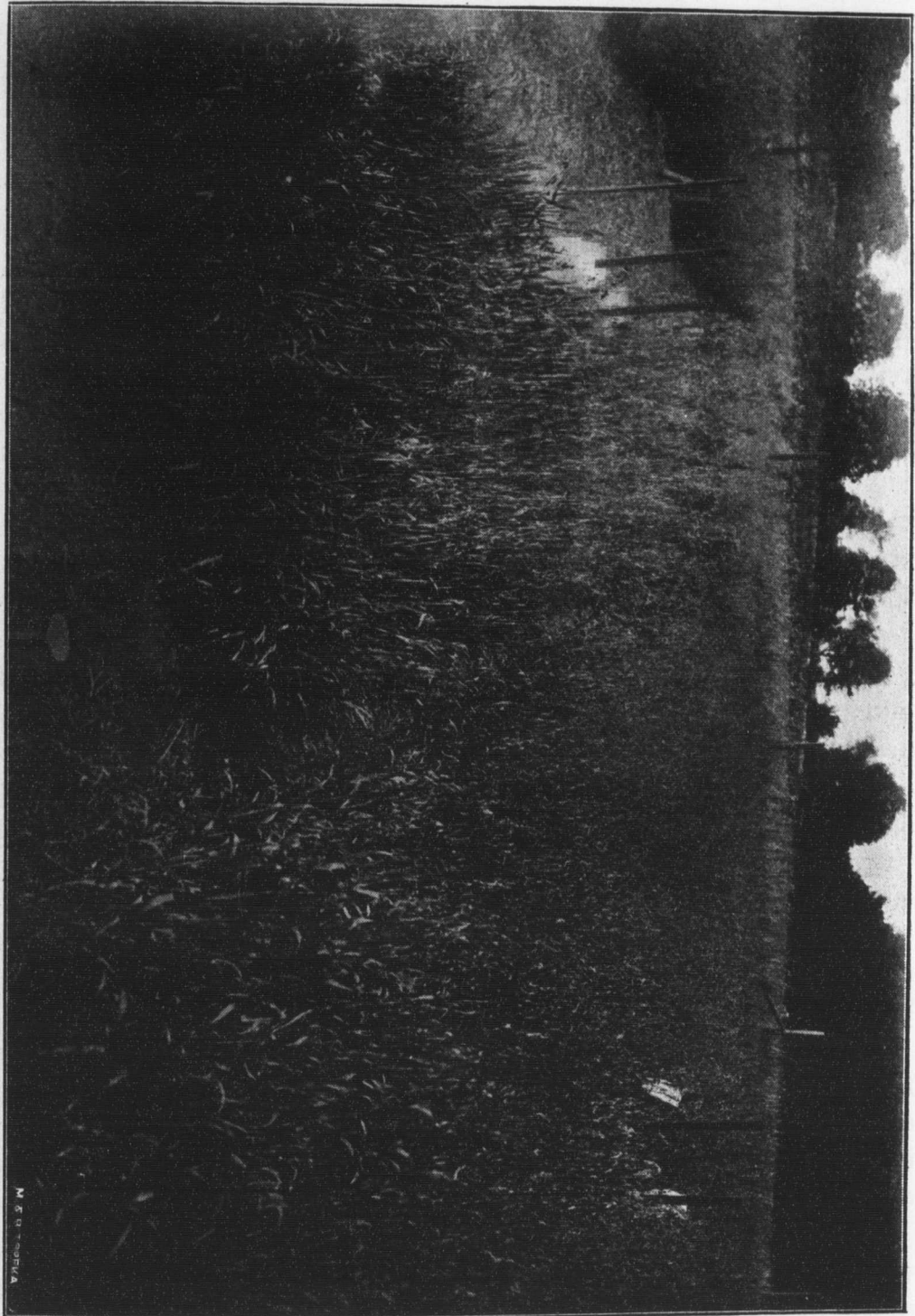
Grand total, 1209. Total average culms per plant, 8.6.

As a result of the above tabulation it will be seen that 138 plants of the black variety bore 966 culms, or an average of 7 culms per plant; while an approximately equal number of the plants of the red variety, 140, produced 1209 culms, or an average of 8.6 culms (virtually 9 culms per plant).

The interest attaching to this table increases if we transfer our attention to another experiment conducted at the same time. From a second lot of mixed red and black oats, which had been secured, similar separations were made, and the red and black varieties were planted separately April 11, in nursery plots, standing one plant in each hill, and with hills 4 x 6 inches apart. The total number of seeds planted in this manner was 5970, from which a total stand of 4546 plants (76 per cent) was secured. Of the seeds planted 3090 were black, and produced a stand in the nursery plots of 2429 plants, or 78 per cent. From the 2880 seeds of the red variety which were planted was derived a stand of 2117 plants, or 74 per cent. Whether the slight advantage of 4 per cent in the germination of the plants in the field, in favor of the black variety, is an index to usual conditions cannot, of course, be surmised without an extended series of tests.

From the outset, or soon after the development of the third or fourth leaf, a marked difference in the habit of growth between the plants of the two varieties was observed both in the rows and in the nursery plots. The plants of the red sort spread the leaves and young stems out flat upon the ground, after the well-known manner of the Turkey varieties of winter wheat. The black oats, on the other hand, sent up erect stalks from the beginning, so that the appearance of the two sorts in the field was strikingly different, as will readily be seen by reference to the accompanying figures. Plants of the black variety stood six inches high, when the red oats had not reached a height of more than two or three inches. That this difference was associated with a greater stool-

PLATE I.—Nursery plots of Black Oats (right); Red Oats (left). These plots are growing from seed separated from a mixture as received from a farmer. Note the taller growth of the black variety.



ing capacity in the red oats was anticipated, and the results verified the expectation. The difference in habit just mentioned was further associated with a difference in the time of ripening. The nursery plots of both varieties were planted on the same date—April 11. The red variety was but 25 per cent in head on June 15, while the black oats were nearly in full head. On June 22 the black oats had come into full head, became ripe July 15, and were harvested July 17, while the red oats came into full head June 26, were ripe July 21, and were harvested July 23, making a total period of 95 and 101 days from the planting to the ripening of the seed, for the black and the red oats respectively—a difference of nearly a week in point of earliness in favor of the black variety.

Before the heads escaped from the “boot,” plants of both the red and black sorts were sacked to prevent the possibility of cross-pollination, and the ripened close-fertilized seed obtained in this way has been saved for the continuance of the experiment.

At maturity, all of the plants from each of the nursery plots were carefully pulled and taken to the laboratory for critical study. It was found at once that there was a difference in habit in the heads of the two sorts. The panicles of the black oats were seen to be loose and spreading, bearing the spikelets on long ray-branches, while the heads of the red variety were characteristically more compact, bearing the spikelets on shorter rays of more nearly uniform length. The spikelets themselves (the commercial “seed” of oats) showed characteristic differences as well. The enclosing glumes or chaff of the red oats spikelets were seen to hold the florets of the spikelets closely enwrapped within, so that the latter were not easily to be freed from them by loose rubbing between the hands, as was the case with the black oats, in which at maturity the chaff becomes loosened from the spikelet and curls back, exposing the florets.

It was also observed that the spikelets as a whole were more firmly attached to the stalks in the red oats than in the black variety, a distinct pull being necessary to release them from the ray in the case of the former, while the spikelets of the black sort fell off almost at a touch.

The individual florets or grains, with their enclosing glumes, were as a whole shorter and plumper in the case of the red than of the black oats, but it was found that there was every possible variation and intergradation in form between the two types in this respect.

All of the nursery-plot plants of each of the two supposed varieties were subjected to a careful statistical study with respect to



M. & B. TOPEKA

PLATE II.—Black Oats, nursery plot, near view.

the number of heads per plant, the number of spikelets per head, and the weight of the spikelets. The result is given in the following tables:

TABLE III.—Comparative table of head characters.

	No. of plants counted...	Total No. of bearing heads.....	Total No. of spikelets...	Total wt. of spikelets, grams.....	Average No. of heads per plant.....	Average No. of spikelets per head.....	Average No. of spikelets per plant.....	Average wt. of each spikelet, grams.....	Average total wt. of spikelets per plant, gms.
Red.....	223	906	14227	491.16	4	15.7	62.8	0.0345	2.17
Black.....	143	374	10767	445.77	2.6	28.78	74.83	0.0414	3.10
Percentage superiority, Red.....					54				
Percentage superiority, Black.....						83	19	20	43

Recalculating and arranging the results for the Red oats on the basis of the same number of plants as were counted for the black variety (143), the differences are perhaps more strikingly represented:

TABLE IV.

	No. of plants.	Total No. of heads.....	Total No. of spikelets....	Total wt. of spikelets, grams.....
Red.....	143	572	8980	309.81
Black.....	143	374	10767	445.766
Percentage superiority, red....		53		
Percentage superiority, black..			20	44

The experiment thus far leaves us in a peculiar quandary. We start out with the general popular assumption that the Red Texas oats is superior, and that the black sort which appears in its midst is inferior, and yet the statistical evidence seems to point to the superiority of the black variety in every essential point except stooling capacity, which, of course, involves the number of heads borne per plant. In the number of spikelets per head, and the number of spikelets per plant, the weight of the spikelets individually, and for the entire plant, the black oat is superior. In fact, in Table IV, in which the results are calculated for an identical number of plants for the two sorts, where we find a superiority of 53 per cent for the Red oats in stooling capacity, *i. e.*, in the total number of heads, we find, on the other hand, a superiority of 20 per cent and 44 per cent for the black oats in total number of spikelets and total weight of spikelets, respectively; which means, in an ag-



PLATE III.—Red Oats, nursery plot, near view.

ricultural sense, a superiority in bushels per acre. Now, it may be that the number of plants studied are too few for the computation of correct averages, but the extremely wide variation in the tabulated results for the two varieties makes it appear improbable that we are dealing with other than two forms very fundamentally different in their characters and capacities.

It will be noticed that the wide advantage of the red oats in stooling capacity, as shown in the nursery plots, is materially cut down when plants are grown under approximately field conditions, as is shown in Tables I and II, in which the superiority of the red variety over the black amounts to but 23 per cent.

It may be assumed as possible that where seed of the two sorts is planted together, the black variety, being upright in habit, would tend to shade and smother out many intermingled plants of the low, spreading red sort. This may partially account for the success of the black variety in the struggle for existence with the red under field conditions.

The inferiority of the black oats in point of yield under actual farm conditions, as indicated in the generally expressed opinion of farmers, may possibly be accounted for by the fact, noted previously, that the seed-bearing spikelets of the black oats are very weakly attached to their stalks. This would mean, in an agricultural sense, that the black oats would "shatter" badly during harvesting. The actual facts in this connection will be worked out during the coming season.

Finally, there comes in the fundamental question: To what is the appearance of the black variety, in the midst of the red sort, due? To assume accidental admixture of seed would assume that the original seed must have included a considerable proportion of seed of the black sort, to make possible the proportion of 61 per cent black and 39 per cent red, in the seed of the second year's crop as grown in this State, as shown by the sample sent us for experiment. Such an overwhelming crowding out of the red by the black sort in two seasons might, of course, occur if the climatic and seasonal conditions strongly favored the earlier maturing black variety, which indeed might fairly be assumed as a safe hypothesis, but which cannot be admitted as proved until after definite experiment.

Assuming that the original seed from Texas, as has been stated by farmers in several instances, showed no signs of mixture, and given the universal occurrence of the phenomenon of the subsequent coming in of the black sort, we are thrown back upon the hypothesis of original hybridization in the imported seed. If



PLATE IV.—Black Oats, single plant. Note the upright habit of the stalks and the absence of "stooling" tendencies.



PLATE V.—Red Oats, single plant. Note the prostrate flattened habit of growth and the tendency to form a thick clump or "stool."

such hybrids followed Mendel's law, the outcome in the first generation would be absolute uniformity of the offspring, while in the second generation there would be a splitting off of one-fourth of the descendants, carrying subordinate or "recessive" characters, with the remaining three-fourths of the offspring showing the dominant characters.

Certain facts that we have observed in a close study of the two varieties point rather strongly to hybridization as the source of the phenomenon. The exact determination of the facts, however, in this direction can only be determined by a study of the behavior of isolated cultures coming from close-fertilized seed.

Such seed has been obtained in quantity from our plants during the past season, and our experiments during the ensuing year will include this phase of the problem.

The matter as a whole presents a most interesting problem in heredity and variation, combined with the study of important physiological and structural characters in the plants, bearing upon their relative success in the struggle for existence.

Finally, the matter has practical importance and the solution of the problem will be of financial as well as scientific value.

H. F. ROBERTS.

Note.—Since writing the above, a letter from the Barteldes Seed Company, of Lawrence, Kan., informs the writer that Red Texas oats when shipped into this State are ordinarily almost free from the black seed, and that the latter appears in the home-raised crops almost invariably within two years or so. The samples which they send clearly illustrate the tendency. The Texas Seed and Floral Company, of Dallas, Texas, state that fall-planted oats in Texas seem for some unknown reason to have a tendency to get black oats in them, but not many, and they are said not to increase greatly. They further state that black oats are not raised in Texas. This information leaves the problem, if possible, more of a mystery than ever before.

H. F. R.

Director C. W. Burkett, of the Experiment Station, addressed the February meeting of the Shawnee County Teachers' Association last week on "Knowledge on the Farm."

Mr. J. R. Young, of Manhattan, has donated the poultry department the use of a fine Acme Barred Plymouth Rock cockrel. Mr. Young has one of the finest strains of Plymouth Rocks in America and has received more first prizes on exhibited birds than any other breeder in the West.

Program for Winter Term, 1907, Showing Instructors, Subjects, and Number in Class.

INSTRUCTOR.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	SIXTH HOUR.	SEVENTH HOUR.	EIGHTH HOUR.
Walters.		Arch. Comp... 2	Arch. Comp... 5	Art Lectures... 15	Desc. Geom. W+S 30, T+T 30			
Weeks.					Architectural Drawing... 9			
Brandt.					Object Drawing... Tu. 68, Th. 46		Object Drawing	Tu. 38, Th. 33
Willard ¹					Freehand Draw... W 43, F 37, S 20			
Wood.					Geom. Drawing... Tu. 35, Th. 32			
					El. Projection... W 37, S 29			
					Advanced Projection... F. 17			
King.								
Crowley (assisted by King and Calvin).	Chemistry I... 30		Chemistry II... 61	Chemistry II... 55	Elective Chemistry Laboratory			
			Chemistry I... 50	Chem. IV... 25-37	Agricultural Chemistry Laboratory		M 14, Tu. 9, Th. 12, S 15	
Popenoe ¹	Geology... 22				Chem. I. Lab. T 24, W 27, T 21			
Dean ¹	Adv. Ent. 3	Adv. Ent. 5		Adv. Ent. 2	Chem. II. Lab. T 8, W 29, T 17, F 29, S 21			
Scheffer.	Zoölogy... 39	Zoölogy... 39		Entomology... 25	Chem. IV. Lab. T+T 31, W+F 28			
Remick.	Int. Calc. 17	Int. Calc. 10		Trigonometry... 20	Entomology Lab. T 11, T 13			
Zeiningger.	Geometry I... 46	Geometry I... 34	Algebra II... 19	Algebra II... 34	Zoölogy Lab. T+T 18, W+F 18			
Andrews.	Algebra IV... 50	Trigonometry... 37	Algebra III... 39	Algebra IV... 53				
McCotter.	Algebra II... 25	Algebra II... 40	Geometry II... 26	Geometry II... 37				
Magee.	Algebra III... 22	Algebra III... 27	Algebra I... 41	Algebra I... 43				
Nesbit.	Algebra II... 24	Geometry II... 28	Algebra II... 39	Geometry I... 31				
Eyer.	D. C. Mach. 19	Geometry II... 30	El. Physics... 30	Physics IV... 28				
Hamilton.	El. Physics... 39	El. Physics... 53	Physics III... 21	Physics IV... 28	D. C. Mach. Lab. T+T 10, W+F 9			
Lane.	Physics II... 19	Physics II... 16	Physics III... 21	Phys. S. C... 24	Phys. Lab. IV... Tu. 28, III W+F 21			
Roberts ¹	Botany S. C... 22	Botany S. C... 14	Plant Mor... 14		Physics Laboratory... 52			
Freeman ¹	Botany I... 30	Botany I... 46		Botany I... 42	Morphology Laboratory... 14			
Bergman.	Psychology... 29	Phil. of Ed. 10		Psychology... 22				
McKeever.					El. Psych. 107 |			
McCormick.					Engineering Laboratory II			
					Mech. Drawing IV... F 14			
Potter.	Kinematics... 32	Kinematics... 32	Thermody. I... 14	App. Mech I... 18	Engineering Laboratory IV			Tu. 6, W 7
Seaton.	Woodwork II... 43	Mechanical Drawing I, 5; II, 4; Mondays.						Th. 7, F 10
House.	Woodwork I... 42	Woodwork I... 44	Woodwork II... 44	Ap. Mech. I... 16	Mech Draw. III... T+T 15, W+F 12			
Wabnitz.	Woodwork Mondays.	Woodwork I... 44	Woodwork II... 44	Woodwork II... 44	Woodwork... T+T 37, W+F 34			
Ridenour.	Machine Shop, Monday A. M., 9; Monday P. M., 10	Monday P. M., 10	Monday P. M., 10		Woodwork Mondays.			
Millard.	Foundry, Monday	Foundry, Monday	Foundry, Monday		Mach. Shop. T 11, W 5, T 4, F 10, S 11		Machine Shop	F 5, S 12
Dickens ¹	Blacksmithing, Monday A. M., 20; Monday P. M., 20	Monday P. M., 20	Monday P. M., 20		Foundry... T 4, T 5, F 9, S 9		Foundry	T 3, F 4, S 7
Eastman ¹	Hort. S. C... 49	Horticulture... 34	Horticulture... 34		Blacksmithing... T+T 20, W 13		Blacksmithing	T 20, W 19, T 18
Abearn.	Floriculture... 24	Floriculture... 27	Floriculture... 27					
Brink.	Rhetoric II... 42	Eng. Lit. 38	Eng. Lit. II... 33	Hort. S. C... 45	Horticulture Laboratory			
Ward.	Classics... 40	Adv. Comp... 32	Classics... 48	English Lit. I... 16	Floriculture Laboratory			
Rice.	Adv. Comp... 26	Rhetoric I... 33	Rhetoric I... 26	Classics... 37	Adv. Comp... 29			

Washburn.....	Readings.....46	Adv. Gram.....30	Readings.....36	Adv. Gram.....31	.....	.....	.....	.....	.....
Leonard.....	Adv. Gram.....31	Composition.....38	Adv. Gram.....36	Composition.....32	.....	.....	.....	.....	.....
Ten Eyck ¹.....	.....	.....	Mech. & Mgt.....36	.....	.....	.....	.....	.....	.....
Scudder.....	.....	.....	Crop Prod. III.....22	Agriculture.....48	Grain Judging.....T+T 35, W+F 25	.....	.....	.....	.....
Call ¹.....	.....	.....	Soil Physics.....6	Crop Prod.....48	Soil Phys. Lab.....Monday A.M. 7	.....	.....	.....	.....
Calvin.....	.....	.....	Elective.....20	Cooking S. C.....22	Dietetics.....T+T 13, W+F 18	.....	.....	.....	.....
Dow.....	.....	.....	Elementary Cooking.....23-15	.....	Domestic Science II.....20	.....	.....	.....	.....
Willis.....	Phys. S. C.....24	Phys. S. C.....28	Phys. S. C.....28	Cooking S. C.....22-16	Sanitation.....38	Cooking S. C.....21	.....	.....	.....
Russell.....	.....	.....	Civics.....39	Elementary Cooking.....44	.....	.....	.....	.....	.....
Price.....	Pub. S. II.....32-26	Pub. Spk. I.....15-17	Pub. Spk. I.....28	Economics.....28	.....	.....	.....	.....	.....
Kammeyer.....	Dairying.....31	But. & Ch. Mg.....30	Elective.....6	.....	.....	.....	.....	.....	.....
Er ¹.....	.....	.....	.....	.....	Dairy Laboratory.....31	.....	.....	.....	.....
Wilson ¹.....	.....	.....	.....	.....	Drill.....318	.....	.....	.....	.....
Shaffer.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cortelou.....	German II.....27	German II.....33	German II.....36	German V.....17-26	.....	.....	.....	.....	.....
Meinzer.....	German I.....45	Readings.....49	German I.....44	Readings.....38	Singing.....48	Singing.....26	Choral.....200	Glee Club.....24	.....
Valley.....	Singing.....18	Singing.....18	Singing.....20	Singing.....28	Band Inst.....37	Violin.....42	Military Band.....43	Concert Band.....37	.....
Brown.....	Violin.....14	Violin.....17	Mandolin.....16	Guitar.....17	Piano.....19	Piano.....17	.....	.....	.....
Augspurger.....	Piano.....14	Piano.....14	Piano.....14	Piano.....16	Piano.....19	Piano.....19	.....	.....	.....
Latimer.....	Piano.....21	Piano.....12	Piano.....14	Piano.....15	Piano.....10	Piano.....9	Piano.....4	.....	.....
Nicolet.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schoenleber ¹.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barnes ¹	Surgery IV.....8	Obst. T+T+S.....8	Medicine II.....8	Gen. Path.....4	Bacteriology Laboratory.....T+T 24	Bacteriology Laboratory.....T+T 24	Clinic.....15	.....	.....
Goss.....	Surgery II.....7	Surgery II.....7	Physiology.....27	Bacteriology.....15	Phys. Laboratory.....W 23, F 23	Phys. Laboratory.....W 23	Physiology Laboratory.....W 23	.....	.....
Rogers.....	Histology Monday.....	M. M. II W+F 15	.....	Medicine V.....7	Anatomy Laboratory.....T+T 62	Anatomy Laboratory.....T+T 62	.....	.....	.....
Kinzer ¹	Dis. Farm An.....36	Elective.....13	Stock Feed.....43	Stock Feed.....13	Stock Judging.....W+F 51	Stock Judging.....W+F 51	Stock Judging.....53	.....	.....
Wheeler ¹	Bds. of Stock.....62	Stock Feed.....51	Bds. of Stock.....49	Bds. of Stock.....47	.....	.....	.....	.....	.....
Willson.....	Stock Feed.....47	Bds. of Stock.....49	Printing.....6	Printing.....8	.....	.....	.....	.....	.....
Rickman.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rodell.....	Printing.....3	.....	.....	.....	.....	.....	.....	.....	.....
McFarland.....	Bookkeeping.....44	Bookkeeping.....47	Bookkeeping.....58	Bookkeeping.....49	.....	.....	.....	.....	.....
Holroyd.....	Algebra I.....26	Algebra I.....40	Geometry II.....20	Algebra III.....32	.....	.....	.....	.....	.....
Short.....	Med. History.....59	Anc. History.....31	Med. History.....58	Anc. History.....31	U. S. Hist. A.....27	U. S. Hist. B.....17	U. S. Hist. A.....27	.....	.....
Thompson.....	.....	.....	.....	.....	Grammar A.....24	Grammar A.....40	Grammar B.....22	.....	.....
Furley.....	Phys. Geog. I.....26	Phys. Geog. I.....37	Adv. Comp.....48	Phys. Geog. II.....39	Phys. Train.....52	Phys. Train.....48	Phys. Train.....15	.....	.....
Reynolds.....	.....	.....	Phys. Geog. II.....37	Phys. Training.....12	Dressmaking.....T+T+S	Dressmaking S. C.....23	Dressmaking S. C.....31	.....	.....
Barbour.....	.....	.....	Dressmaking S. C.....17	Sewing III.....17	Dressmaking.....T+T+S 22	Dressmaking S. C.....22	Dressmaking S. C.....25	.....	.....
Becker.....	Sewing II.....	.....20-18	Sewing I.....	.....	.....	.....	.....	.....	.....
Cowles.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stump.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ridenour.....	Sewing II.....19	.....	.....	.....	.....	.....	.....	.....	.....
Lund.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sweet.....	Anc. History.....39	.....	Ancient Hist.....42	Geometry I.....25	Boiler & Engine.....16	Geography.....15	Geography.....15	.....	.....
Train.....	Algebra I.....21	Geometry I.....27	.....	.....	Arithmetic B.....29	Arithmetic A.....37	Arithmetic A.....27	Arithmetic B.....16	.....
Haslam.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Inskeep.....	Phys. Geog. II.....24	Phys. Geog. II.....43	Phys. Geog. I.....36	Phys. Geog. I.....24	.....	.....	.....	.....	.....
Withington.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harner.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Finley.....
Dunlap.....

¹ Experiment Station work. ² Alternate days.

THE INDUSTRIALIST

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Local Notes.

Basket-ball scores: K. S. A. C., 39; M. S. U., 19. K. S. A. C., 29; K. U., 25. K. S. A. C., 52; Ottawa, 25.

Professor McKeever will address the prisoners of the Kansas State Prison, at Lansing, to-morrow (Sunday). We know that the professor will give his hearers an interesting talk, and predict that not a person will leave the room till he is through with his discourse.

Alumni and Former Students.

J. F. Odle, '94, has sold his farm near Ogden and expects to locate near Wamego in the near future.

Geo. E. Hopper, '85, has purchased from Prof. Albert Dickens, '93, the lots at the northeast corner of Fremont street and Manhattan avenue, facing the park. He will erect a residence and move his family here.

Carl Elling, '04, found his work at the experiment station, Santiago de las Vegas, Cuba, somewhat broken into during the recent civil strife, and took the opportunity to take a number of photographs. He sent copies of these to Professor Kammeyer, through whose courtesy others have had the opportunity of seeing them. They give a vivid idea of Cuba in peace and in war. Mr. Elling says that the resources of the island are wonderful, but the energy of a more rigorous clime will probably be required to develop them.

A. L. Hallsted, '03, of Havana, Kan., and Mamie Eva Helder, '04, of Manhattan, were married at the home of the bride's parents, Tuesday evening, February 12. From the published account, which lack of space does not permit us to quote, the occasion was one of delightful and original informality. About fifty guests were present, the rooms were decorated in keeping with the valentine season, and many substantial tokens of esteem were presented the young couple. They will go to Havana, where Mr. Hallsted is engaged in farming.

Prof. H. B. Bainer ['00,] of the Colorado Agricultural College, read a paper on "Farm Machinery for the Arid Regions." He entered into a detailed description of the various tools and machines used for the cultivation of the dry soils. His paper was highly appreciated, and the speaker was obliged to enter into details in the description of the various machines he recommended, as this subject seemed to be quite important with those interested in the success of dry farming.—*Twentieth Century Farmer*, in a report of the recent dry farming convention in Denver.

Boys' and Girls' Contest Number

THE INDUSTRIALIST

Historical Society

Vol. 33

No. 17

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas

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Far back in the ages,  
The plow with wreathes was crowned;  
The hands of kings and sages  
Entwined the chaplet round;

. . . . .

Honor waits o'er all the earth,  
Through endless generations,  
The art that calls her harvest forth,  
And feeds the expectant nations.

—Bryant.



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## Proposed Blanks.

### CONTEST ENTRY CARD.

.....*County Boys' and Girls' Contest.*

Contesting in .....  
Name ..... P. O. ....  
Town or Township .....  
Age ..... Father's Name ..... Size of Farm .....  
Attended school last (when) ..... (where) .....  
or .....  
Attending school now in Dist. No ..... Teacher .....  
Seed from ..... Variety .....

I agree to work faithfully to secure good results in my contest, to report accurately and truthfully my methods and the yield from my plot of ground and to attend, if it is possible, the farmers' institute this fall for one day, and to make an exhibit unless excused from so doing by the institute committee.

Date ..... 1907. .... (Name) .....

The above may be printed on Manila card, 3 x 6, and will become a permanent record of the institute secretary. It will answer for all crop contests, and may be modified for cooking and sewing and flower-garden contests or for village contests.

### OUTLINE FOR WRITTEN REPORT.

1. Kind of soil in which seed was planted .....
2. Location (field, garden, level, slope or hill, etc.) .....
3. Kind of crop raised on same ground last year .....
4. How ground was prepared for seed .....
5. Planting (date, depth, number of ..... per hill, distance apart of hills, number and length of rows.) .....
6. Cultivation (tools or machinery used, dates of cultivation, how cultivated, etc.) .....
7. Date crop was gathered; number of ..... , number of pounds of .....
8. Expense in time, labor, and money:
  - a. Total number of hours of work by contestant ..... \$ .....
  - b. Value per hour of contestant's work at 10c per hour .....
  - c. Value of work by team of horses or other force required in raising ..... (at 10c per hour for each horse) .....
  - d. Amount of other expenses .....
  - e. Total cost of crop .....
  - f. Value of ..... at market price .....
  - g. Amount of loss or gain .....
9. State what difficulties, if any, were encountered with weather, disease, insects, squirrels or other pests, and results .....
10. Statement of what has been learned by contestant in contest .....
11. Name ..... Address ..... Age .....
12. Residence; school district, and township or name of town or village .....

# THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., FEB. 23, 1907.

No. 17

## *Kansas Boys' and Girls' Contests for 1907.*

WANTED: TWENTY THOUSAND BOYS AND GIRLS TO ENTER THESE GREAT CONTESTS.

The success of the Kansas Boys' Corn Growing Contest in 1906, with nearly five thousand boys enlisted, justifies the Kansas State Agricultural College, through its Farmers' Institute Department, in planning for greater things this year. Last year we hoped to have the contest taken up in sixty counties, and forty-seven counties responded. This year, with a variety of contests, we must make a "clean sweep," with one hundred and five counties represented. When the boys and girls are so responsive everywhere we must not have a delinquent county. The contests are so varied that no county should ask to be excused. It is all for the boys and girls of Kansas—our boys and girls, the future citizens of our State. And these contests are not merely to increase our crop production; they are to increase respect for the great base of supplies—the soil; they are to magnify the idea that those who make plants grow and produce are the only original producers; that those who improve the yield or the beauty of a plant are benefactors to mankind. Therefore we desire to broaden our lines this year and take into the contest not only the boys of the Kansas farms, but the girls also; and not only the boys and girls of the farms, but the thousands of boys and girls of our villages, towns, and cities. We hope to enlist in this great soil-working campaign at least twenty thousand Kansas boys and girls, and back of them and working for them, farmers' institutes, women's clubs, school officers, superintendents, principals, and teachers, and thousands of other public-spirited citizens.

Thanks are due to Professor TenEyck, Instructor Eastman, Superintendent Ahearn, and Mrs. Calvin, of the Kansas State Agricultural College, for suggestions for the various contests, and to President Nichols for constant encouragement and helpful suggestions for this important extension work of the College.



## THE CORN CONTESTS.

These contests will be under the general direction of the county farmers' institute organization of each county. The executive committee of each institute should meet very soon and decide upon varieties of corn to plant, where they will secure the seed (the College has no seed-corn to sell), how and when it will be distributed, what other contests they want to take charge of, and also to appoint proper committees for special work. Last year's experience makes it clear that the county superintendent of schools should, in most cases, be asked to take charge of the corn contest and, if that officer is willing, to attend also to the correspondence and receive names for all other contests that will be brought before the annual institute. In many counties the county superintendent is now the regular secretary of the institute, and in very many others has been chosen "Boys' and Girls' Secretary." Where there is no county institute organization we hope to have the county school superintendent assume entire responsibility for all contests.

The corn-contest boys will be in two classes this year. Boys who were in the contest last year will be assigned to class A. They will be asked to plant their best ten ears of last year's raising in ten rows of equal length. Where the available plot of ground is not long enough the contestant may plant twenty shorter rows. In this case he is really making two plots, planting one-half of ear 1 in row 1, and then half of ear 2 in row 2, and so on for ten rows, and then the remaining halves in the next ten rows. Thus he will be taking his second lesson in corn breeding, noting in blanks, to be furnished him later, the weight of each ear, the per cent of germination in each row, and the general condition of each row through the summer. When the tassels begin to appear the contestants should detassel, by pinching off, every alternate row, to secure cross-fertilization, using the detasseled rows as the seed rows for the next year. To make a test of all ears the contestant should detassel alternate rows of the double plot clear through; that is, detassel even-numbered rows on first half of plot and odd-numbered rows on last half. In case he has ten long rows he should detassel half of each even-numbered row, and then at other end of plot one-half of each odd-numbered row, thus giving him seed rows from each of his ten ears. He should also, during this ten or fifteen day period, detassel in the breeding plot all inferior stalks—those too tall, too short, too thin and spindling, those that have small root growth, those having suckers, and those that show no sign of shoot, barren stalks. If he does this, and it will not

take much time, going through the plot about every two or three days for about ten days, he will have some good seed-corn. Then he should gather his best ears from his best stalks from the detasseled rows, sometime between the middle of September and the middle of October, keeping separate those from different rows. Later, when he gathers the remainder of the corn, he should weigh the ears from each row, and adding the weight of seed ears gathered from each row he will have a record of the producing power of each ear. Then when he takes his corn to the show he should have each ear numbered and tagged so that he will know whether it is a seed ear or not.

Class B will include boys who enter the contest for the first time, and the county committee may either furnish to each boy a quart of pure-bred corn or, if the county had a contest last year, they may recommend that each boy of class B buy a quart of corn from one who was in last year's contest, or they may buy the corn from the boys of last year or elsewhere and give it to the boys of class B. If the corn used last year was reasonably satisfactory, we recommend that the same variety be used this year. In some counties the corn furnished last year was inferior. In those cases we do not hesitate to recommend the purchase of better corn for both classes, giving to the boys of class A ten ears and to the others one quart. Whenever a father has a good variety of good-producing corn it is better to permit him to supply his boys with seed. In all cases the corn should be bought near at home.

These corn contests, as last year, will culminate at the county farmers' institute meetings, to be held between October 15 and December 20, 1907. There are many reasons why this department cannot recognize contests held at any other time or place. The principal reason is that the contestants are obliged to attend at least one session of an institute, and we want them to hear the addresses on corn growing. The contest will be for the best ten ears of corn, regardless of variety or color. It is also a good idea to have a yield contest for both classes, details to be arranged by each local committee. This year it is recommended that the boys' corn be judged by local judges, preference being given to young men who have had instruction in corn judging at some agricultural college.

#### PRIZES.

Instead of cash prizes, as last year, we urgently recommend that each county institute arrange to send all its winners in the county contest to the State Farmers' Institute and State contest



to be held at the Kansas State Agricultural College next winter, probably December 26 to January 4, paying railroad fare and board while at the institute. This whole movement is for education and inspiration, and not merely to swell the boys' bank accounts. We suggest, therefore, that each county determine its number of prizes according to the amount of money available. The railroad fare may safely be taken as a half-rate, and board at Manhattan for eight or nine days at about \$5. Then all prizes should be the same, first and fifth or tenth—a trip to the State institute. We like the idea of letting interested and public-spirited men send a boy. It creates a closer interest, makes the donors and the boys partners, in a sense, in future corn growing. In one Illinois county seven banks sent seven boys to the state meeting last winter. In one Kansas county a lumber dealer gave a \$10 prize on condition that he be allowed to give it in the future. There are a dozen of more men in every corn-growing county in Kansas, any one of whom will be glad to send a boy to the State institute next winter if given the opportunity. It is money well invested. Institute officers are urged to give this matter early consideration and secure a list of "boy senders" very soon. Do not understand, now, that this form of prize is required. Each committee must decide this matter. We feel sure that it will be a wise thing to do, and therefore recommend it. It will be well to have the judges next fall rank corn for an equal number of alternates, since all the winners may not be able to attend the State contest. All winners in the county contest are eligible to enter the State contest, but no corn will be admitted into the State contest this year unless it is brought to Manhattan by the boy who raised it or by an alternate. That is, the alternate may bring the winner's corn or his own, at the option of the institute officers. The ears that won at the county contest need not be sent to the State contest, although each boy must certify that his entry was selected from the corn raised from the quart given him, or from the ten ears in his row test plot.

## VARIETIES OF CORN RECOMMENDED.

| Name of Variety.          | Type.            | Maturing Season. |
|---------------------------|------------------|------------------|
| Kansas Sunflower.....     | Yellow Dent..... | Medium late      |
| Hildreth.....             | Yellow Dent..... | Late             |
| McAuley.....              | White Dent.....  | Medium late      |
| Hammett.....              | White Dent.....  | Medium early     |
| Mammoth White Dent.....   | White Dent.....  | Late             |
| Hiawatha Yellow Dent..... | Yellow Dent..... | Medium           |
| Griffing Calico.....      | Calico.....      | Late             |
| Boone County White.....   | White Dent..     | Medium           |
| Reid's Yellow Dent.....   | Yellow Dent..... | Medium early     |
| Hogue's Yellow Dent.....  | Yellow Dent..... | Medium early     |

VARIETIES OF CORN RECOMMENDED.—*Concluded.*

| Name of Variety.  | Type.             | Maturing Season. |
|-------------------|-------------------|------------------|
| Leaming .....     | Yellow Dent ..... | Medium early     |
| Legal Tender..... | Yellow Dent.....  | Medium early     |
| Silver Mine.....  | White Dent.....   | Medium early     |

The first seven varieties named are "native" Kansas corns, recommended for growing in this State by the Kansas Corn Breeders' Association. The other varieties named are desirable, or pure-bred types of corn introduced from other states and recommended by the Kansas Corn Breeders' Association for growing in this State after the seed has become acclimated and the corn adapted for growing in Kansas. Other varieties of corn, not here named, which may be well bred and especially adapted to certain localities in the State, may be used in this contest. It is preferable to secure seed, as far as possible, from local growers.

## HOW TO BEGIN.

The county institute committee, or other organization or person or persons taking charge of this work, should decide as early as possible on plans for advertising the contest and upon the varieties of corn to be used, taking those deemed best adapted to their county, preferably using a corn raised nearest their latitude and under rather similar conditions. They should use only pure varieties of corn to avoid having their boys' samples thrown out at the State contest. The corn should be carefully selected for purity and uniformity of type and perfection of form. Then a day in March or April should be set for the distribution of this seed-corn. It should be shelled, measured and sacked, and sacks tied and handed out, and name, address and age of each boy taken, and also the name of his father or guardian. This list should be copied and deposited in a bank for safe keeping. The names and addresses of contestants should also be printed in all local papers. Usually the local papers will gladly publish this list every week from the time the first name is entered up to the week following the distribution of the seed. This publication always helps to encourage others to enter. The College authorities hope that not a county in the "corn belt" will enter less than one hundred boys. And surely some counties will have five hundred contestants. Certainly no institute committee or county superintendent ever had a greater opportunity to advance the agricultural and educational interests of Kansas.

## CONDITIONS.

The contest will be limited this year to boys between ten and eighteen years of age. The work must be conducted on a farm,



not on a city lot. Each boy who gets a quart of seed must agree to plant it carefully, cultivate it well, and exhibit ten ears of corn, raised from that seed, at the county institute and corn contest next autumn or winter. With his entry he must submit a brief statement as to date of plowing the ground, kind of land, length of cropping history, methods of preparing for planting, method and date of planting, methods of cultivation, date of gathering, and a statement of number of vigorous stalks in plot on the first day of August, the number of ears, and the number of barren stalks. Each boy must agree to attend, if at all possible, at least one session of the county institute.

#### THE STATE CONTEST.

All the winners in the county contests will be eligible to enter the State contest. If the farmers' institute holds a contest and the county fair offers prizes under our conditions, and if any individual offers prizes, making the same conditions as others, all the winners may select corn and enter their best ten ears.

This contest will be held as stated elsewhere, at the Kansas State Agricultural College, on December 30 and 31, 1907, under the auspices of the Kansas Agricultural College. Boys who win in local contests will be allowed to bring the same ears exhibited at the local contest, or they may make a new selection, but from the product of the same corn authorized by the committee in the spring for the contest. No corn will be entered in the State contest unless brought in person by the boy who raised it or by his alternate and who must spend at least two days in attendance in corn-judging classes. A circular will be sent in late summer to all contestants in class B, in which will be given in detail rules for selecting and judging corn, score-card, etc.

#### BEGIN WORK SOON.

Institute committees are urged to take hold of this work at once, as it will take several weeks to get it well advertised and to create general interest in the county among the boys. A local committeeman should be appointed for each township to work up a list of boys. All local editors should be consulted at once. It will be hard to make this a success without their help. The assistance of county superintendents of schools should be secured at once. No other person can wield as much influence for this movement as the county school superintendent. In fact, in counties where there is no farmers' institute organization, or where the organization will not take hold of this very promptly, the county superintendent will be asked to assume the whole responsibility of the contest.

## CORN JUDGING CONTESTS.

Much good may be done by offering one or two prizes for corn judging. This contest should be limited to young men between the ages of fifteen and nineteen, no one being allowed to contest who has ever received any instruction in corn judging at an agricultural college. It is recommended that this be conducted by some one who has had instruction at an agricultural college. There may be found in practically every corn county in Kansas several young men who have had this instruction and who are qualified to handle these classes. If only one prize be given, it might be a trip to the State institute. Speakers who go out from the Kansas Agricultural College next fall should not be asked to conduct judging drills nor to judge corn. Three reasons may be assigned for this ruling: (1) It takes too much time from the other institute work. (2) As other subjects are to be emphasized next fall by the College speakers, most of the speakers will represent other departments and do not care to act in this capacity. (3) We believe that institute committees should recognize and encourage the young men who have already taken college training in corn judging.

## CONTESTS IN GROWING DWARF MILO MAIZE.

Believing that this is an important grain crop for western Kansas, a good substitute for corn, we hope to interest several hundred boys in our western counties in doing a little experimental work. The institute committee is advised to give each contestant one quart of selected seed, prizes to be awarded for best ten heads and for greatest weight of unthreshed grain. Boys are advised to plant rather thicker than most farmers plant, and to cultivate oftener. Great care should be taken in gathering the crop to select the best heads from the best stalks for seed with a view to early maturity and resistance to drought.

We want one hundred boys in the western counties to carry on a little feeding test next fall with the Dwarf Milo Maize and corn. Names should be sent to the Superintendent Farmers' Institute Department, not later than September 15, 1907.

## DURUM WHEAT CONTEST.

To help spread the gospel of Durum wheat in all western Kansas, we shall ask farmers' institute officers to offer prizes for the best wheat and for the greatest yield from one peck of selected seed. The wheat should be cut when just right—just ripe, neither too soon nor too late—threshed in a clean machine, and then thoroughly cleaned and graded for seed, and the contest continued for



three years for highest yields. Committees should act quickly on this, as Durum wheat should be sowed in latter February or early March.

#### SUGAR-BEET CONTEST.

To interest the boys in Southwestern Kansas in studying the problem of raising sugar-beets, we ask the committees in that territory to announce the contest and arrange for seed. This can be secured from the Beet Sugar Company, Garden City, Kan. We recommend furnishing to each contestant five pounds of seed. There ought to be a best method of cultivating sugar-beets as there is of corn. Let the boys be the experimenters in both cultivating and irrigating, keeping record of date of planting, thinning, cultivating, irrigating, etc. Prizes should be awarded for best scoring beets, and also for yield, without regard to sugar content. This contest may be handled outside the irrigating district, and even out of shipping distance to the factory, as the beets are profitable as a stock feed. It is possible, too, that better cultivation with a view to better conservation of moisture would produce a good product for the factory even without irrigation. The boys may help solve that question. The prize may well be a trip to the Garden City sugar factory. A circular of instructions will be sent to all contestants about the first or middle of April.

#### GARDEN CONTESTS.

Last year our contest was limited to corn, and to corn grown on farms. But this year we are anxious to enlist several thousand bright boys and girls of our villages, towns and cities in this great campaign of soil study. Idle children and idle lots when hitched up together with hoes and rakes and spades will produce things of utility and beauty. For the most part, the garden contests will be directed by womens' clubs and teachers.

We recommend that institute organizations announce the contests for boys and girls on the farms, and we want the villages and towns and cities to take up the contests with their own organizations, school boards, teachers, womens' clubs, etc. Of course, the institute committees in some counties might take into their contests the children in the small villages, but it is better for each village or town to handle its own contest.

#### FAMILY GARDEN CONTEST.

This contest is open to boys and girls between the ages of ten and eighteen, whether on the farm or in town. Those from the farm will, of course, report to the farmers' institute, while those

in town will usually have local committees, although the competition is wholly fair if all enter the same contest.

The garden plot is to be fifty by one hundred feet, and in this plot are to be grown at least ten varieties out of a list of sixteen of the common varieties of vegetables grown. The following directions are to be followed: First, the varieties to be grown: string beans, peas, radishes, lettuce, cabbage, onions, beets, sweet corn, parsnips, salsify, carrots, tomatoes, spinach, turnips, cucumbers, peppers. At least ten of this list are to be grown, the selection to be left to the wishes of the grower.

The purpose of this contest is to show the possibility of such plot of ground, the total yield in vegetable products, and by the results to encourage a more liberal planting and growing of vegetables on the farm and on city lots.

In the awarding of these prizes the following points are to be considered: First, the total amount of vegetables produced; second, the cost of material and labor in the production of such crop; and third, the method of rotation whereby the ground or plot may be made to yield one or more varieties of vegetables throughout the growing season. In regard to the amount of vegetables produced on this plot it is understood that at the time of weighing or counting, the vegetables must be in a fit condition for table use—that is, for instance, beets in this contest will not be counted if they are allowed to remain in the field until they are unfit for use except for stock feed. Likewise vegetables, like lettuce, which have a comparatively short period of palatability, must not be left in the garden for the purpose of increasing the yield to the absolute loss of palatability.

In this contest it is advisable to begin as early as possible in the spring with cool-weather vegetables and follow these with summer vegetables. It is best to plant or set the vegetables in straight rows, preferably one variety to one or more rows so that they are planted in such way as to facilitate cultivation, and also that the garden will have an attractive appearance.

#### POTATO GROWING CONTEST.

In conjunction with the garden plot, whether on farm or town lot, a plot of ground 50x50 is suggested for a potato growing contest, the total area, 50x150, being the exact size of a city lot. The variety or varieties of Irish potatoes to be grown is left with the contestant, also the distance apart in row, the distance between rows, the manner of planting, the number of eyes to which the potatoes are cut, methods of cultivating, etc. All these data must, however, be kept by each contestant. Although it will not enter



into any contest, the crop chosen to follow the potatoes this season, date of planting, amount of yield, etc., will be made a matter of record and publication. Prizes are recommended for best ten potatoes and also for highest yield. Later a potato score-card will be sent to all contestants.

#### FLOWER GARDEN CONTEST.

The fruitful farm ought also to have a beautiful home. The prosperous village ought to have beautiful homes. And it does not need a mansion to make a beautiful home. While we are encouraging the boys to increase the yields of corn, potatoes, etc., we must also help the girls to make the plain yard a beautiful one. The love for flowers and taste and skill in growing flowers is to be developed by practice as well as by preachment. Therefore, this contest. It is not to be limited to the farm, but will be open to girls of farm, village, or town.

Each town or village must have its own local committee to announce plans, enroll contestants, and to award prizes and provide for prizes. Women's clubs and school teachers will be looked to for help in this contest. We suggest that each committee designate its own day for judging the flower gardens, some day probably between July 10 and 25. Each girl may select her own flowers, the enclosed list being only suggestive. Others may be substituted for different localities, owing to climate and seeds easily obtainable. Committees may add to the contest for the most beautiful garden the matter of disposition of flowers if they think best. We suggest to institute officers that they appoint a lady in each township to enroll contestants among the girls on the farms and award the prize for each township. We sincerely hope that five thousand girls may join this contest. All committees should report to this department, as soon as possible, names, ages, and post-office addresses of all contestants, also whether living on farm or in town.

#### SUGGESTED FLOWERS AND DIAGRAM.

(Contestants should strive for originality in arrangement of plots.)

This list contains nothing but flowering plants, excepting the Castor-Oil Bean. Keep weeds down, cultivate, water if necessary, but be careful and do not let the soil bake after watering. Ageratum, Phlox and Snapdragon should be pinched back at least once. Ageratums, 10 to 12 inches apart; Salvia splendens, 14 to 18 inches apart; Snapdragons, 12 to 16 inches apart; Phlox Drummondii, 10 to 12 inches apart; Larkspur, 14 to 18 inches apart; Sweet pea, 2 to 3 inches apart; Cannas 20 to 24 inches apart; Dahlias, 24 to 30 inches apart; Castor-Oil Bean, 24 to 30 inches apart; Hollyhocks, 12 to 14 inches apart.

|                           |                                     |                          |                         |                          |
|---------------------------|-------------------------------------|--------------------------|-------------------------|--------------------------|
| West.                     |                                     |                          |                         |                          |
| 1<br>Ageratum<br>Mexicana | 2<br>Salvia<br>Splendens            | 3<br>White<br>Snapdragon | 4<br>Annual<br>Larkspur | 5<br>Phlox<br>Drummondii |
| 2-ft. walk.               |                                     |                          |                         |                          |
| 6<br>Sweet<br>Pea         | 7<br>Canna<br>(large,<br>flowering) | 8<br>Castor-Oil<br>Bean  | 9<br>Dahlias            | 10<br>Hollyhocks         |
| East.                     |                                     |                          |                         |                          |

Each plot 5 × 6½ ft.

## DOMESTIC SCIENCE AND ART CONTESTS—BAKING, SEWING, MENDING, CANNING FRUIT, ETC.

That the girls should be equally interested in the institutes of the State seems desirable, and that this may be attained it is suggested that there be several premiums offered for work done in the home by girls from nine to sixteen years of age.

A bread contest is easiest and best in many respects, being more instructive than any one other line of work, and the results of the girls' efforts more readily seen and judged. Premiums might be offered on white bread, whole-wheat bread and bread made from flour of Durum wheat. The latter variety only in such localities in which such wheat is grown.

Those entering the contest should be required to agree to bake fifty loaves of bread during the four months immediately preceding the time of the contest, to present one loaf at time of institute, baked in regulation pan, and to furnish one essay telling method of making, kind of flour used, the source of the yeast and how the yeast was perpetuated. She should include in her article facts about the growth and handling of wheat, the milling of flour and the life of yeast plants.

A canned fruit and vegetable contest would be interesting and profitable. The girl showing the best and largest collection of fruits and vegetables, canned, preserved, or pickled, the work all having been done by herself and no preservative being used, receiving the prize. A contest of jellied fruits could be carried on



under like conditions. In every case require papers on all methods employed and principles involved. Every can should bear a label as to variety of fruit, manner of preservation, and date of preparing.

Other contests may be on roasted chicken, butter making and cottage cheese manufacturing; the corresponding papers being on the care of poultry and its value as food, the care of milk and cream and the causes of the various changes in milk.

Where it is deemed possible to bring in a source of heat for cooking at the place where institute is held, interest may be increased by having contests in cooking at the time of the meeting. Some food that can be quickly prepared should be chosen, as corn-bread or muffins. In this case the local committee might require that each contestant bring her own utensils and materials. In such cases it might be possible to have some one present who could at a subsequent meeting give some actual instruction to those present. This could be as a demonstration lecture or by organizing the girls present into a class and giving a few lessons.

Needle-work contests should consist of hand work on useful articles, *i.e.*, on aprons, table linen, etc. Samples of darning and mending may also be shown in contest.

Fancy needle-work and the baking of cakes and pies are of doubtful value when in connection with farmers' institutes. All of these are difficult to judge because of the many standards of quality, and as they are not necessary to the welfare of a family might be left without the encouragement of competition. This, of course, is left wholly to the judgment of the local committee.

Committees will find in the Institute Report for 1906 suggestions, recipes, etc., for bread baking. Copies may be had on application to this department. Each institute president should appoint at once his committee of ladies to arrange for these contests, determine the classes, prizes, etc., and arrange for premiums. Some committees may wish to widen the age limit, and this is left to each committee. Possibly it might be well to make two classes, one twelve years and under, and the other thirteen and under eighteen.

Committees are asked to report the names, ages, and addresses of contestants, and whether living on farm or in town. They are also urged to complete all arrangements for local announcements very soon, and also to complete their premium lists by June 10, the date for closing entries. Report list when completed.

## TIME LIMIT FOR ENTERING CONTESTS.

As this contest work is to be something of a school, inciting to study and practice, and also to lessen the amount of work for the several committees, it is suggested that a limit be fixed for entering the several contests, as follows: (1) Durum wheat, March 15; (2) corn, maize, potato, garden, sugar-beet, flower garden, April 10; (3) baking, sewing, etc., June 10; (4) baking corn-bread, canning fruit, etc., September 10; (5) corn judging, October 1.

## REPORT NAMES OF ALL CONTESTANTS.

Last year many institute officers were slow in reporting names and addresses of contestants. It will be a great help to the work if these lists be reported to this department as early as the first of June or better, as soon as seed is given out. In case of class A corn contest, the list may be accepted as authentic and reported at discretion of committee. Make sure of correct post-office address. In some cases last year half the addresses were wrong, causing delay, trouble, and extra postage. Report each contest separately and on different sheets of paper, writing the surnames first, as "Smith, John A." Also, it will help this office if names are grouped by post-offices, and when possible the lists should be typewritten. Remember that names are hard to make sure of, especially for strange clerks, not familiar with the names. A little extra trouble in getting the list in proper shape at first may save much annoyance later on. Please indicate age of each contestant right after the name, and also indicate whether residence is on farm or in town.

## COÖPERATION INVITED.

This department invites and hopes to have the coöperation of all farmers' institute officers and members, of all county superintendents of schools, of all city superintendents and principals of schools and all teachers, of all boards of education, of all women's clubs and other helpful organizations, of all Kansas newspapers, of all public-spirited citizens of Kansas, who believe in the boys and girls. We feel that our State is on the eve of a great awakening in agricultural education, and we therefore invite the coöperation of all who are interested in this movement. Address all correspondence to

J. H. MILLER,

*Superintendent Farmers' Institute Department.*

Kansas State Agricultural College.

Manhattan, Kan., February 22, 1907.



## GENERAL SUGGESTIONS.

1. All exhibits should remain the property of contestants.
2. Contestants should keep careful record of field and garden work and other expense on each plot.
3. About the first of August a bulletin will be mailed to all contestants in corn and potato classes. About a month later a bulletin will be sent to all girls in the baking, canning and sewing contests. Information bulletins will be sent to all contestants.
4. Blanks will be sent to officers for reporting names of contestants. Officers will please report number in each class promptly.
5. Remember that all contestants must first report to a county or town committee. Only winners in the county corn contests are eligible to enter a State contest.



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| JOHN O. HAMILTON, B. S. (Chicago) .....                                  | Assistant Professor of Physics              |
| ANDREY A. POTTER, S. B. (Mass. Inst. Tech.) .....                        | Asst. Professor of Mechanical Engineering   |
| ROBERT H. BROWN, B.M. (Kan. Con. of Music), B. S. (K. S. A. C.) .....    | Asst. Professor of Music                    |
| BENJ. R. WARD, A.M. (Harvard) .....                                      | Assistant Professor of English              |
| <hr/>                                                                    |                                             |
| Miss Ada Rice, B. S. (K. S. A. C.) .....                                 | Instructor in English                       |
| Miss Ella Weeks, A. B. (U. of K.) .....                                  | Instructor in Drawing                       |
| Miss Daisy Zeining, B. A. (Fairmount) .....                              | Instructor in Mathematics                   |
| George F. Freeman, B. S. (Ala. Polytech. Inst.) .....                    | Instructor in Botany                        |
| Geo. C. Wheeler, B.S. (K.S.A.C.) .....                                   | Instructor in Animal Husbandry              |
| Leonard W. Goss, D. V. M. (Ohio State University) .....                  | Instructor in Veterinary Science            |
| Geo. A. Dean, M. S. (K. S. A. C.) .....                                  | Instructor in Entomology                    |
| Robert E. Eastman, M. S. (Cornell University) .....                      | Instructor in Horticulture                  |
| Miss Ula M. Dow, B. S. (K. S. A. C.) .....                               | Instructor in Domestic Science              |
| William L. House .....                                                   | Foreman of Carpenter Shop                   |
| Miss Gertrude Barnes .....                                               | Assistant Librarian                         |
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| Ambrose E. Ridenour, B. S. (K. S. A. C.) .....                           | Foreman in Foundry                          |
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| Theo. H. Scheffer, A.M. (Cornell University) .....                       | Assistant in Zoölogy                        |
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| Miss Helen Thompson, B. S. (K. S. A. C.) .....                           | Assistant in Preparatory Department         |
| Roy A. Seaton, B. S. (K. S. A. C.) .....                                 | Assistant in Mechanical Engineering         |
| M. Francis Ahearn, B. S. (Mass. Ag. College) .....                       | Foreman of Greenhouses                      |
| Miss Cecelia Augspurger (Illinois Wesleyan) .....                        | Assistant in Music                          |
| Miss Gertrude Stump, B.S. (K. S. A. C.) .....                            | Assistant in Domestic Art                   |
| M. Sheldon Brandt, Ph. B. (Yale) .....                                   | Assistant in Architecture and Drawing       |
| Heman A. Wood, B. S. (Olivet) .....                                      | Assistant in Chemistry                      |
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| Earle B. Millard .....                                                   | Foreman of Blacksmithing                    |
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| Leland E. Call, B. S. (Ohio State University) .....                      | Assistant in Agronomy                       |
| Miss Mary F. Nesbit, A. B. (Illinois University) .....                   | Assistant in Mathematics                    |
| Miss Annette Leonard, A. B. (K. U.) .....                                | Assistant in English                        |
| William C. Lane, B. S. (K. S. A. C.) .....                               | Assistant in Physics                        |
| William R. Lewis .....                                                   | Janitor                                     |

# THE INDUSTRIALIST.

VOL. 33.

MANHATTAN, KAN., MARCH 2, 1907.

No. 18

## *Basketry, or Primitive Weaving.*

Weaving, the oldest of the industrial arts, dates back so far that no one can say when or where it had its beginning. We read in Genesis that when Adam was driven from the garden of Eden he wore a coat of skin; but not long after, according to Professor Hurwitz, the descendants of Adam wore an upper garment called the simula, which consisted of a piece of cloth about six yards long and two or three yards wide, greatly resembling a blanket. This might have been woven from vegetable fibers, perhaps from linen embroidered with wool, in what manner we do not know. In Leviticus the warp and woof of linen and woolen garments are mentioned. The Chinese, the Hindoos, and the Egyptians for thousands of years have practised spinning and weaving, and have carried them to great proficiency. The Israelites were probably familiar with the art of weaving before their sojourn in Egypt, for it was there that they attained the skill which enabled them to execute the hangings in the tabernacle. Joseph's "coat of many colors" is a proof that dyeing existed at a very early period. And the eloquent writings of Ezekiel tell us of the beautiful colored cloths of Tyre and Damascus.

What is weaving? Weaving is the art of interlacing threads, yarns, filaments or strips of different materials so as to form a cloth or fabric. It is the first industrial art practiced by the primitive peoples, from the fact that it is found among the savages of Central Africa and the islands of the sea.

Indian basketry has taught us to appreciate the beauty of primitive weaving and furnishes the most striking illustrations of the wonderful patience, fertility of resource, and inventive genius of the aboriginal women in using nature's materials, roots, grasses, twigs, vines, rushes, palm-fibres, shells, and feathers, shaping them into useful and beautiful forms. The question has been asked, "What would be the civilized man of to-day without the art of weaving, the soft art that surrounds his home with luxuries?" Into the life of the Indians baskets have entered most intimately in their domestic needs, their religious and their social functions.



In infancy, cradled in a basket and carried long, toilsome journeys upon a mother's back, hung from some tree branch, swayed by every passing breeze, the bronze baby's earliest recollections must have been associated with baskets—baskets which filled every needed demand for cooking, burden-carrying, and hoarding away of garnered stores for winter use. Baskets were the Indian woman's poems; the making manifests her ideals and longing for the beautiful.

No one, after thoughtfully examining or doing the work, can help regarding the Indians and their wonderful productions, so filled with unwritten poetry of a race now almost extinct, can turn away without a new interest for the Indians and their baskets. Hence we feel that Indian basketry or primitive weaving will gain appreciation by placing before our readers the possibilities of reed and raplana. For it is an ideal occupation not only for little children, but for older ones as well, affording admirable opportunities for the development of head, hand, and heart. Both hand and eye are trained in accuracy, and the training in patience, perseverance, industry, economy in the use of materials, perception, concentration, dexterity and self-reliance can not be over-estimated. All these are what we claim weaving develops in our children today. And while we may not have the magic of the Indian squaw in our finger tips, we are able to teach her methods of work, her designs and decorations, giving to us the impulse toward a better way of expressing our thoughts, not only through our lips, but by the dexterous use of our hands.

ANTONETTA BECKER.

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### ***The Traveling Corn Show.***

The Kansas State Corn Show held at the State Agricultural College this year was the most complete in the history of the State. It was made by the State corn breeders and also by the boys of the State who entered actively into the contests. The State Corn Breeders' Association prizes brought out a fine exhibit of corn from the best breeders in Kansas, and the boys of the State exhibited another fine lot of corn, which was grown by the boys of forty-seven counties.

The Missouri Pacific railway, through its industrial department, desired to take this instructive exhibit to the farmers on its lines in the southeastern part of Kansas, and arrangements were completed by the agricultural agent of the Missouri Pacific railway, who conceived the idea of carrying on this unique campaign of corn improvement. The Kansas Agricultural College was pleased to coöperate in making this undertaking a success. The College

furnished speakers to go along and lecture on corn breeding, soil fertility, soil culture, and more corn from fewer acres. The lecturers were under the management of the Farmers' Institute Department of this College.

The trip was a great success from the beginning. The farmers of Kansas came out by thousands to see the corn and attend the lectures. Corn-judging drills were held in the forenoons at the different towns, and the afternoons were devoted to lectures. Special stress was laid on the selection and testing of seed-corn for planting, the preparation of the soil, the conserving of the moisture and fertility for crops.

It was thought that this would probably be the most practical way of arousing an interest in this subject. The idea of taking a State corn show direct to the farmers so that they could have an opportunity to study the best corn grown in the State is certainly a helpful one.

The several counties visited by the State corn show had, in 1905, an aggregate corn average of 924,649 acres. If this trip with its lectures and exhibits can result in adding one bushel to the average yield in the counties visited it will mean practically 1,000,000 bushels increase in the corn yield in the eleven counties.

In twelve days, fifteen towns were visited, 8675 people passed through the car, and 3940 attended the lectures on corn breeding. In most places the meetings were held under the auspices of the local farmers' institute, and elsewhere organizations were perfected. Everywhere new enthusiasm was created for better corn and more to the acre and for boys' and girls' contests in corn raising and other work. The Missouri Pacific Railway Company and the Kansas Agricultural College have, since October, 1905, worked together for nine weeks, covering practically every mile of its territory in Kansas.

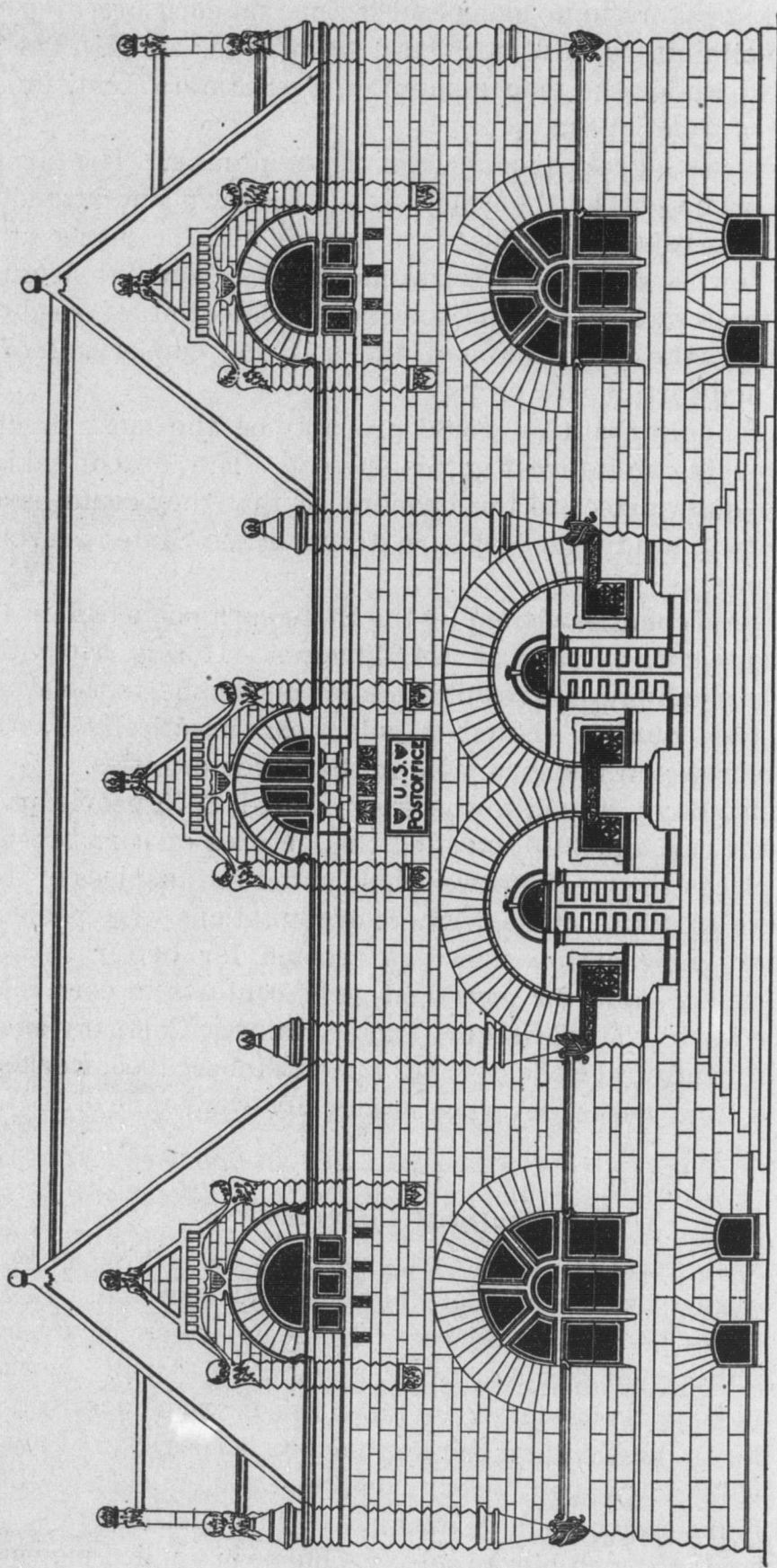
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### ***Architectural Composition.***

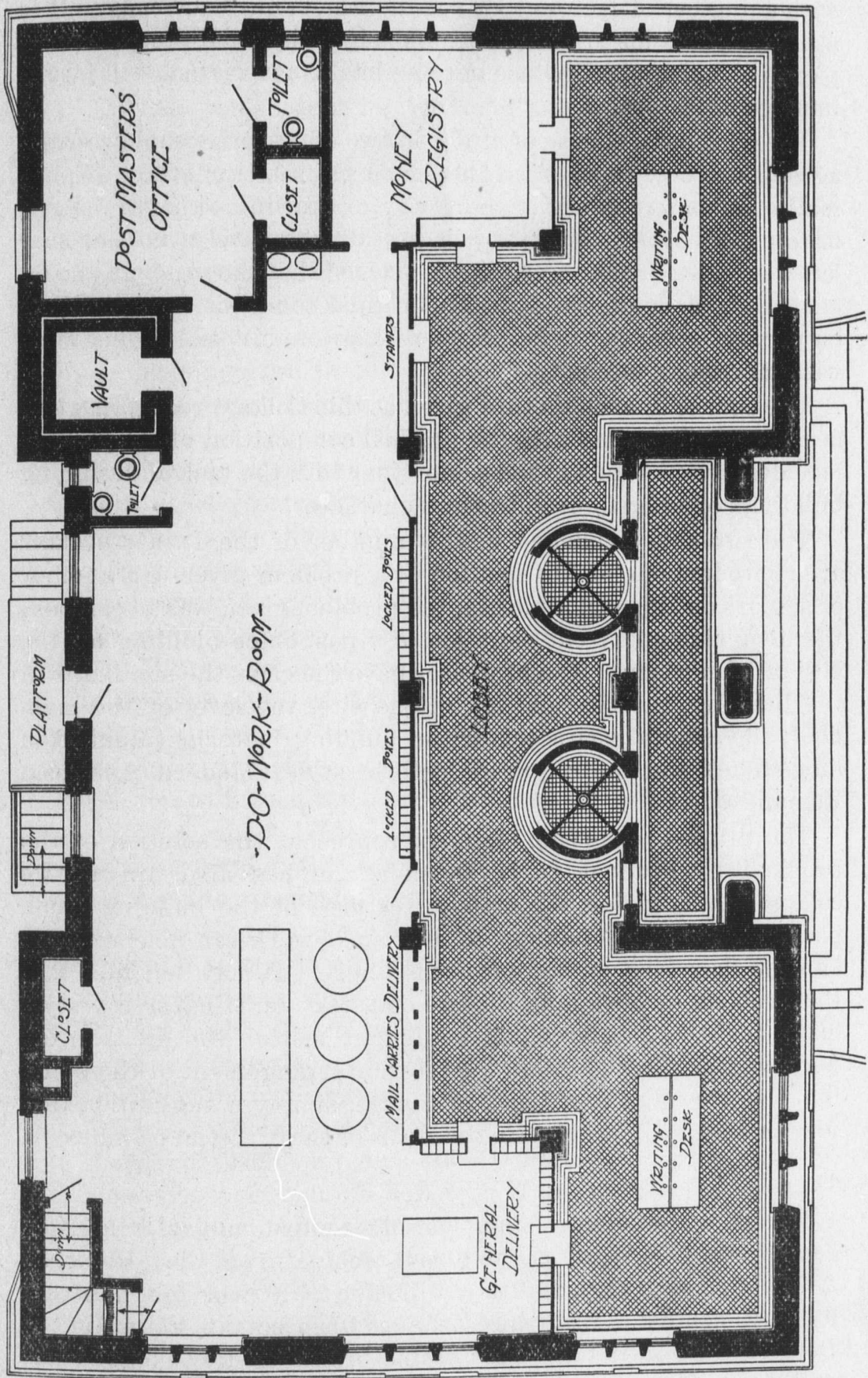
Technical education has a clear-cut purpose. It seeks to educate the student to do original work in his chosen line. In order to do the work he is being educated for he must somehow learn to originate, think out, lay out, draw, and direct "large" work. A mere copyist or draftsman is not an engineer or an architect.

To make an independent thinker and correct logician of a young man is a difficult matter, a very complex problem. It is difficult to teach him to solve a simple example in pure mathematics. It is more difficult to teach him to solve problems in applied mechanics, hydraulics, heating, or ventilation, because here he has to deal





Proposed front elevation and main floor plan for a U. S. post-office building for Manhattan, Kan. Original composition by L. L. Dougan, student of architecture, Kansas State Agricultural College. Scale 1:120.





with a number of factors that act and react simultaneously. It is still more difficult to teach him to design whole buildings or complexes of buildings, because here he has to associate a still larger number of factors.

In laying out a course of study no two educators would probably agree as to how much time should be given to the study of pure mathematics, or physics, or chemistry, or drawing, or history of art, or to purely professional studies, but all who have given this subject a good deal of thought would concede that the student should at an early date do much work in original composition and that as he progresses in the course he should devote himself to this work with increasing intensity.

The course in architecture given at this College recognizes this necessity. It begins with the original composition of simple surface designs and ends in the senior year with the task of designing buildings of a highly architectural character.

The two cuts published in this number of the *INDUSTRIALIST* are reproductions of the solution of a problem given to a number of seniors and special students, the problem given was to compose the floor plan and front elevation of a post-office building for the city of Manhattan. The professor gave the class the size limits of the building, the size and lay of the site, the level of the main floor, the general character of the building material (Manhattan lime-stone), and the required historic style (Modern American Romanesque.)

The printed photo-zinc etchings represent the solution of the problem by student L. L. Dougan. He has also drawn two colored plates giving the artistic features of the building much plainer than these etchings do, but such work can not be "cut" and can therefore not be represented here. It may be added that the problem of designing a large one-story building in any style excepting the Neo-Greek is a difficult matter for even an experienced architect. As to the interior arrangement of the building, the drawings represent, of course, simply a suggestion that may or may not come close to the ideals of the practical postmaster.

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The annual students' stock-judging contest will be held Monday, March 11. Word has just been received from Clay, Robinson & Co., of Kansas City, that they will offer a \$10 prize for the stock-judging contest. Also the Zenner Disinfectant Company, of Detroit, Mich., will offer a handsome bronze medal to be given as one of the prizes.

### ***How to Get More Corn per Acre.***

Professor TenEyck, of the Kansas State Agricultural College, is interviewed by a Topeka *Capital* reporter, as follows:

1. How do you account for the low State average, 28.4 bushels, of corn per acre?

"Well, 28.4 bushels per acre is a high yield of corn for Kansas. The average yield of corn in Kansas for the ten years, 1895-1904, was 21.65 bushels per acre; yet the yield for 1906 of 28.4 bushels per acre, reported by Mr. Coburn, may be considered low, since it is well known that with good seed and favorable conditions of soil and season very much larger yields may be produced on the average farming land in this State. One of the reasons for the low general average for the State is that a considerable acreage of corn is grown in sections of the State which are not well adapted for growing corn. I observe, in looking up the yield for the period of seven years, 1898-1904, that the average yield of corn per acre varies for different counties from 31.3 bushels per acre in Doniphan county to 10.6 bushels per acre in Ness county, and yet Ness county is credited with 9064 acres of corn per year as an average for the seven years, while Doniphan county is credited with 72,374 acres as an average. There are some thirty counties in the western third of the State not well adapted for growing corn, yet the yearly average of corn credited to these counties varies from a few acres in the extreme western counties of the State to ten to fifteen thousand acres in counties situated in the regions of Graham, Ellis, Rush, Edwards and Ford counties. The total acreage in this low-producing area of the State therefore amounts to a considerable part of the total acreage of corn grown in the State, and the low average yield of the whole State is partly due to the low yields in the areas which are not well adapted for growing corn.

"The low yield of corn in this State is also due to other conditions; poor tillage, lack of cultivation, soil deficient in fertility, seed deficient in vitality, and inferior breeds of corn. It is not possible to secure large yields of corn except on fertile soil. Deep and thorough tillage develops the fertility of the soil, conserves soil moisture, and insures a larger crop, and there is no crop which the farmer grows that is affected so much by cultivation as the corn crop. A little lack of cultivation on good soil may easily reduce the yield of corn twenty-five to fifty per cent.

"There is a great difference in the productiveness of different varieties of corn as grown in this State or adjoining states when grown side by side on the Experiment Station farm at Manhattan;



they vary in yield sometimes as much as one hundred per cent. In the trial of varieties of 1906, some eighty-four different samples of corn were planted. The yields of standard varieties varied from fifty-four to ninety-two bushels of corn to the acre. Some varieties of corn which are well adapted for growing in eastern Kansas are not so well adapted for growing in the central and western portions of the State. Corn must be adapted to a certain soil and climate in order to give the best results in yield and quality of grain produced. Corn may also be improved by breeding and careful selection of seed, keeping the type pure, and selecting the best ears for planting next season.

"The stand of corn also has much to do with the yield, and to secure a good even stand of corn it is necessary to plant seed of strong vitality. This requires a careful testing of the germination of the seed-corn before planting and the planting of only that seed which shows a high percentage of germination."

2. Do you expect the average yield of corn to be higher in the next few years if we have favorable seasons?

"There is no reason why the average annual yield per acre in this State should not steadily increase. Corn growers are becoming intensely interested in breeding corn. To insure large yields of corn it is not only necessary to plant well-bred corn of good producing varieties, adapted for growing in our soil and climate, but it is essential to plant only seed of strong vitality. This means that farmers must take great care in testing the germination of their seed-corn and plant only seed of strong vitality. In order to insure the planting of only those kernels which will sprout, it is necessary to test the germination of the kernels on each ear of corn, and discard those ears whose kernels show a low percentage of germination. It is especially necessary to test the germination of seed-corn in this way this spring, since it appears that some corn which was not husked until after the hard freeze last November was injured in vitality, and usually those ears can only be discovered by a germination test.

"Again, farmers are studying the subject of cultivation as never before. The land is being plowed deeper and the corn is being cultivated oftener and more carefully than has been the rule in past years. The science of cultivation is being studied and is better understood to-day than ever before. The conservation of soil moisture, aeration of the soil and destroying of weeds are all important factors in producing large yields of corn. We must pay more attention, however, to maintaining the soil fertility if we wish to produce larger yields of corn and other crops. The prac-

tice of growing corn continuously on the same land for fifteen or twenty years, or even five years, must be changed for practical systems of rotation of crops which shall include clover, alfalfa and grasses as well as the use of annual crops for green manure and a proper use of the barn-yard manure.

"The extensive use of chemical fertilizers on Kansas lands for growing corn can not now be recommended, since cheaper means are at hand for renewing the productiveness of the soil, and our soil has not yet become exhausted to that degree when the general application of chemical fertilizers has become necessary.

"Alfalfa grows successfully throughout a large portion of the corn-growing sections of Kansas, and there is no other crop which can be grown in this State which will return a larger financial profit in itself and at the same time increase the fertility of the soil, so as to double in many instances the crop of corn that follows.

"I shall be disappointed if Kansas does not produce an average yield of thirty bushels of corn per acre for the next ten years, 1905-1914, as against 21.65 for the years from 1895-1904."

### ***Baseball Schedule.***

The baseball schedule for spring term has not been fully completed, and a number of dates are yet open, but the following games have been definitely arranged for by General Manager Dean:

AT HOME:  
 April 8, St. Paul.  
 April 12, Washburn.  
 April 17, College of Emporia.  
 April 20, Ottawa.  
 April 29, Missouri University.  
 May 4, Drury College.  
 May 6, Baker University.  
 May 11, Kansas State Normal.  
 May 18, Fairmount.  
 May 30, Washburn.

May 22, Kansas University.  
 May 23, Kansas University.  
 June 20, Haskell Indians.

ON TRIPS:  
 April 22, Baker University.  
 April 23, Haskell Indians.  
 April 24, Kansas University.  
 May 13, College of Emporia.  
 May 14, Kansas State Normal.  
 May 15, Washburn College.

The Aberdeen-Angus sale made by Geo. E. Avery, of Riley, at the live-stock pavilion at the K. S. A. C. Monday afternoon, was very well attended by breeders from different sections of the State. The total receipts of the sale were \$2115. Twelve bulls brought \$885, making an average of \$73.75, the highest price, \$107.50, being paid by John Acker, of Junction City, for Dude 91421, a 2-year-old. Twenty-one cows netted \$1230, with an average of \$58.57. The highest price, \$90, was paid by Harvey Bros. of Ogden, for Aurora's Cricket 37526.



# THE INDUSTRIALIST

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## Kansas State Agricultural College

Manhattan, Kansas.

PRES. E. R. NICHOLS..... Editor-in-Chief  
PROF. J. D. WALTERS..... Local Editor  
PROF. J. T. WILLARD..... Alumni Editor

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### Local Notes.

Over 1700 students actually present.

Prof. R. J. Kinzer attended the Percheron horse sale at Lincoln, Nebr., Tuesday.

The carpenter-shop has recently remodeled twenty-six old reading tables for the Library.

Professor Erf and Mr. Snodgrass attended a farmers' institute at Randolph on Friday, March 1.

The Horticultural Department shipped a large number of evergreens to the Hays Experiment Station this month.

The Agronomy Department took advantage of the fine weather last week to seed a considerable quantity of spring grain.

The *Good Roads* magazine published Professor Dickens' paper on "Oiled Roads," and ornaments the article with his half-tone.

The lecture by Rufus Emerson King at the Auditorium last Friday was well attended and much enjoyed.

The College Y. W. C. A. held a Japanese party in Kedzie Hall last Monday night. About ninety were present and had a good time.

The Websters and Eurodelphians will give a play, "Down in Dixie," on March 6. Tickets are on sale at the College post-office. Seats, 25 cents.

George Stevenson, Jr., president of the Aberdeen-Angus Cattle Breeders' Association, visited the College and attended the Avery sale on Monday.

Col. Silas Igo, the auctioneer from Des Moines, Ia., who cried the Avery sale, expressed himself as being greatly surprised to find so large a College here.

Supt. J. D. Rickman, of the Printing Department, has sold his residence on Humboldt street and will move into the Professor Weida residence, on Fremont street.

We notice in the city papers that the council has ordered the laying of sidewalks on Bluemont Avenue, Vattier street, and Manhattan Avenue. These improvements will greatly benefit the College. Thanks, Gentlemen!

Hon. P. J. Potts, member of the legislature from Morris county, visited College last Sunday in company with Prof. J. E. Edgerton, of the Manhattan schools. He was delighted and surprised to see such a grand institution, and said that he may move here some day to educate his children.

The College band will give its annual concert in Wareham's opera-house, Friday, March 8. The program will be made up of of classical, operatic and popular selections, including several novelties, and will be well worth attending.

Prof. W. A. Kellerman, of Ohio State University, formerly the head of the Botanical Department of this College ('83-'91) writes to Professor Walters from Guatemala, Central America, where he is making botanical explorations, that he is enjoying his mid-winter trip.

Prof. C. C. Georgeson, formerly professor of agriculture at this College and at present director of the U. S. Agricultural Experiment Stations of Alaska, visited College last week. He had been in Washington, D. C., to confer with Secretary Wilson and was on his way back to Alaska. He came to Manhattan to engage some College men as assistants and to buy a herd of grade cattle.

Professor Willard spent last Saturday and Monday with other advisory members of the State Board of Health and Doctor Crumbine, secretary of the board, in consultation concerning the rules and regulations to be adopted concerning the execution of the Kansas pure-food and drugs law which went into effect February 16. The board meets next Thursday to take action on the matter.

The music recital given in the Auditorium last Thursday evening by the Department of Music was well attended, in spite of the abominable weather. The soloists were Tillie Harold, Bessie M. Nicolet, John Z. Martin, Edna Jones, Gertrude Lill, Eugenia Fairman, A. G. Kittell, Elsie Brown, and Miss Augspurger. The College Orchestra and the Cueer Cuartette furnished the heavy interludes. The concert was a credit to the department and testified to the high grade work done by its teachers.

We notice in the Randolph *Echo* that Edward and Soloman Seccrest, of Randolph, have recently donated to their home town a tract of land of six and one-fifth acres, lying along the banks of Fancy creek, for a public park. If our ex-Regent had the millions of J. D. R., or some other rich "feller," he would "not let his left hand know what his right hand" might do. There would be more parks and more books, more schools and more research, more knowledge and more happiness and truth in this old world if money could be made to buy these things.

Willis P. Popenoe, father of Prof. E. A. Popenoe, died at his home in Berryton Friday night, at the age of eighty years. Mr. Popenoe was a well-known Kansas pioneer farmer. He was a member of the State Board of Agriculture for about fifteen years, and the treasurer of the State Grange for several years. In 1874 and 1875 he was appointed by the executive committee of the Kansas State Grange as receiver of aid and money from eastern granges during the grasshopper invasion. In this capacity he received and disbursed great quantities of clothing, food and money from the granges in the eastern states. His life was devoted to the development of Kansas. "Well done, thou good and faithful servant."



Asst. Theo. H. Scheffer reports that his new book of "Laboratory Notes for Guidance in the Dissection and Elementary Study of Animal Types" is meeting with general success. The scientific press, without exception, speaks very highly of it. The *School Bulletin* calls it a "most capital idea;" *Country Life* says, "It is a most excellent system of keeping notes;" The *Nation* writes, "The book will prove useful in high-school and elementary courses," and *Science* says, "In general, the subjects are well presented." The book, bound in strong, adjustable cloth covers, sells at \$1, net.

The fourth annual banquet of the Y. M. C. A. was held last Monday night in the reception-room of the M. E. church. About two hundred fifty of the members assembled together to feast on things both material and spiritual. The building movement received an added stimulus, and before the event closed \$2070 more had been subscribed, making the total amount subscribed something over \$26,000. After the banquet a group of the Association men met and agreed to raise \$4000 among the students in the next five days. Each class in College will have a team of ten men under a leader. Each team will be especially responsible for the men of its class. A clock made out of paste-board and arranged to record the amounts as they are subscribed is now posted in the main building at the post-office.

One of the most successful social events of the year at the College was the annual senior-junior reception Saturday night, with the seniors as hosts and the juniors as guests. Occurring as it did on February 23, it was called a "Skiddoo Party." The shooting gallery, wheel of fortune, frog pond, fortune telling, cigar stand and refreshment booth kept the crowd merry until it was told to "skiddoo" to the Gymnasium, where a dainty three-course supper was served. After the supper the following toasts were given, with H. H. Conwell as toastmaster: "The Juniors," by James Coxen; response by Oley Weaver; "Junior Roasts," by Clarence Nevins; "Senior Roasts," by Dora Harlan. The company then returned to Kedzie Hall, where the fun was continued until a late hour. Kipp's orchestra furnished the music.

#### ITEMS LEFT OVER FROM LAST WEEK.

Professor Potter wired the new seed house for electric light last week.

Professor Kinzer went to Wichita last Monday to attend the Percheron sale of Robison Bros.

The Washington county students held their second annual social in Kedzie Hall, Monday evening. All report a good time.

Mr. Anstry, expert for the International Harvester Company, gave a demonstration of the Blue Bell cream separator last week at the Dairy Hall.

Assistant Dean, Coach Ahearn and three of the boys entertained Coach Anderson and the men of his Missouri University basketball team Friday morning, by showing them around the campus. They were an estimable crowd of fellows, such men as K. S. A. C. students enjoy welcoming.—*Herald*.

Institute Superintendent Miller and assistant Elling, of the Fort Hays Branch Experiment Station, held several farmers' institutes in western Kansas last week.

The Company I basket-ball team goes to Salina to-day (Saturday) where they will play the teams of the Salina Wesleyan University, Marquette High School, and St. John's Military Academy.

### ***Alumni and Former Students.***

We have just learned that Miss Abbie Putnam, '02, was married last June to Mr. Edward Cutting. Mr. and Mrs. Cutting reside at Lenora, Kan.

J. J. Biddison, '04, who for some time has been associated with the *Topeka Daily Herald*, has recently become city editor of the *Chanute Sun*.—*Students' Herald*.

Mattie Pittman, '06, has resigned her position in the Horton schools and accepted a government position as teacher of domestic science in the Indian school at Chilocco, Okla.

Mr. and Mrs. T. W. Morse ['95 and '94], of Kansas City, announce the birth of a son at their home Saturday morning, February 23. Mrs. Morse is a daughter of Mr. and Mrs. P. C. Helder, of this city.—*Mercury*.

J. H. Whipple, '04, and Miss Inez M. McGregor were married on December 31 at the home of the bride's mother, Olivet, Kan. Mr. and Mrs. Whipple are at home to their friends at 816 Jefferson street, Topeka, Kan.

L. A. Fitz, '02, of the Bureau of Plant Industry, United States Department of Agriculture, read a suggestive paper on "The Production of Good Milling Wheat" before the 29th Annual Convention of the Pennsylvania Millers' State Association, at Baltimore, Md.

D. F. Wickman, '92, while still continuing his operations as nurseryman near Topeka, is engaging in the real-estate business. He with his partner constitute the Topeka Real Estate Company. They make a specialty of farm sales and are handling a large block of Texas land.

F. A. Dawley, '95, held a very successful sale of Poland China swine at Salina, February 15. He is a hustler in every way and his stock brought the highest average ever received for hogs at a sale in this State, fifty head bringing \$10,287.50. The top price, \$775, was secured for "Faith."

At the twelfth annual meeting of the Illinois Farmers' State Institute, held February 19 to 21, Margaret M. Mather, '02, director of the department of home economics in Lincoln College, Lincoln, Ill., gave an address on "The Dignity of Labor." Upon the same occasion R. S. Kellogg, '96, forest inspector, United States Department of Agriculture, gave an address, illustrated by stereopticon, on "Forest Planting in Illinois."



A. L. Cottrell, '03, is now in the employ of the Quaker Oats Company, of Chicago. He is traveling as feed expert, working up new territory as market for the products of the company. He is now in the South. He is to be addressed in care of the Quaker Oats Company, Chicago, Ill., and is always glad to hear from the College and friends.

Changes of address: Mrs. Emma (Smith) Burt, '03, Route 1, Alma, Kan. H. P. Richards, '02, 201 Anglice Avenue, Cleburne, Texas. L. B. Pickett, '05, and Nell (Paulsen) Pickett, '05, Whiting Kan. D. E. Bundy, '89, Mancos, Colo. G. W. Wildin, '92, Care of Supt. Motive Power's Office, Lehigh Valley Railroad Company, South Bethlehem, Pa.

Jane C. Tunnell, '89, has recently been appointed to a position in one of the high schools of Chicago, Ill. She will finish this year the period of probation which they require of all teachers and be ready for a permanent assignment next fall. Her sister Elizabeth is with their mother at the Illinois Eastern Hospital, Hospital, Ill. Mrs. Tunnell has been confined to her bed for five months and is very feeble.

Dr. K. C. Davis, '91, has resigned his position as principal of the Dunn County (Wis.) School of Agriculture to become dean of the new State School of Agriculture at Canton, N. Y. Doctor Davis assumes his new position in June. He has made a notable success in his present position. Candidates to succeed him are requested to write to him at Menomonie, Wis., and a choice will be made this month.

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The last number of the *Jayhawker* is one of the best yet. An important feature is an instalment of letters from the '01's. We learn from it that:

A little daughter was born, January 30, to Floyd Champlin, '02, and Grace (Hill) Champlin, '99, of Phillipsburg, Kan.

The Washington Alumni Association held its sixth annual reunion Tuesday evening, January 29, at the Tea Cup Inn. About forty were present.

Clara Barnhisel, '04, has accepted the position of head matron at the Indian school in White Earth, Minn., and went the latter part of January to take up her duties there.

Henry Sidorfsky, '03, who has been employed with the General Electric Company, with headquarters in Los Angeles, has gone to South America and when last heard from was headed for Rio de Janeiro.

Henry Thomas, '04, who has been employed with the Bullock Electrical Manufacturing Company, of Cincinnati, has accepted a position with the Consumers' Electric Company, of New Orleans, and took charge of the electrical end of their main power station there early in January. His address is 1726 Bordeaux street, New Orleans, La.